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GRAS Notice (GRN) No. 514

<http://www.fda.gov/Food/IngredientsPackagingLabeling/GRAS/NoticeInventory/default.htm>

ORIGINAL SUBMISSION

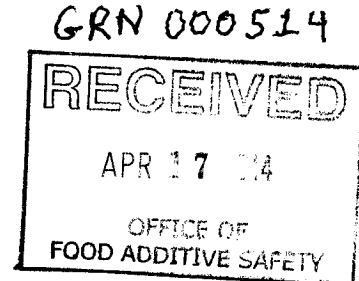
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Soni & Associates Inc.

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April 11, 2014

Office of Food Additive Safety (HFS-255)
Center for Food Safety and Applied Nutrition
Food and Drug Administration
5100 Paint Branch Parkway
College Park, MD 20740-3835



Subject: GRAS Notification for Sucrose Fatty Acid Esters

Dear Sir/Madam:

Pursuant to proposed 21 CFR 170.36 (62 FR 18960; April 17, 1997), Sistena B.V., Netherland and Dai-ichi Kogyo Seiyaku Co., Ltd., Japan, through Soni & Associates Inc. as its agent, hereby provides notice of a claim that the food ingredient sucrose fatty acid esters described in the enclosed notification document is exempt from the premarket approval requirement of the Federal Food, Drug, and Cosmetic Act because it has been determined to be Generally Recognized As Safe (GRAS), based on scientific procedures.

As required, please find enclosed three copies of the notification. If you have any questions or require additional information, please feel free to contact me by phone at 772-299-0746 or by emails at msoni@soniassociates.net or sonim@bellsouth.net.

Sincerely,

(b) (6)



Madhu G. Soni, Ph.D., FATS

Enclosure: Three copies of the GRAS notice



Soni & Associates Inc.

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GRAS NOTIFICATION

I. Claim of GRAS Status

A. Claim of Exemption from the Requirement for Premarket Approval Requirements Pursuant to Proposed 21 CFR § 170.36(c)(1)

Sisterna B.V., Netherlands, has determined that sucrose fatty acid esters is Generally Recognized As Safe and, therefore, exempt from the requirement of premarket approval, under the conditions of its intended use. This determination is based on scientific procedures as described in the following sections, under the conditions of sucrose fatty acid esters's intended use in food, among experts qualified by scientific training and expertise.

Signed,

(b) (6)



Date

4/11/2014

Madhu G. Soni, Ph.D., FATS

Agent for:

Sisterna B.V.
Belder 30A
4704 RK Roosendaal
The Netherlands

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B. Name and Address of Notifier:

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Sisterna B.V.
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Co-notifier

Dai-ichi Kogyo Seiyaku Co., Ltd.
Functional Chemicals Sales Department
Food & Life Materials East
8th Floor Yaesuguchi Daiei Building
1-3-1 Kyobashi, Chuo-ku, Tokyo 140-0031
Japan

C. Common or usual name of the notified substance:

The common name of the substance of this notification is sucrose fatty acid esters.

D. Conditions of use:

Sucrose fatty acid esters are intended for use in breakfast cereals; fats and oils; fish products; grain products and pastas, gravies and sauces; meat products; other; poultry products, processed fruits and fruit juices; and processed vegetables and vegetable juices, at use levels ranging from 0.005 to 1.0% and as a diluent in fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances at use levels of 0.0003 to 2.9% (in final food). Sucrose fatty acid esters are not intended to be marketed for infant and toddler foods. The individual existing food-uses (Baked Goods and Baking Mixes; Beverages and Beverage Bases; Chewing Gum; Confections and Frostings; Dairy Product Analogs; Fats and Oils; Fish Products; Fresh Fruits and Vegetables; Frozen Dairy Desserts and Mixes; and Milk Products) and the proposed food-uses and use-levels for sucrose fatty acid esters were considered to estimate the cumulative intake of sucrose fatty acid esters from all sources. Food codes representative of each proposed food-use were chosen from the National Health and Nutrition Examination Surveys (NHANES) 2003-2004, 2005-2006, and 2007-2008 cycles. The intended use of sucrose fatty acid esters in the above mentioned food categories, including the existing uses, is estimated to result for “users only” at mean and 90th percentile intakes of 0.589 g/person [9.6 mg/kg body weight (bw)/day] and 1.136 g/person (19.1 mg/kg bw/day), respectively.

E. Basis for GRAS Determination:

In accordance with 21 CFR 170.30, sucrose fatty acid esters has been determined to be Generally Recognized As Safe (GRAS) based on scientific procedures. A comprehensive search of the scientific literature was also utilized for this determination. There exists sufficient qualitative and quantitative scientific evidence, including human and animal data to determine safety-in-use for sucrose fatty acid esters. In recent years, sucrose fatty acid esters

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have been the subject of three GRAS notifications (GRN 421; GRN 248; GRN 129). In response to these notices, FDA did not question the conclusions that the use of sucrose fatty acid esters is GRAS under the conditions described in the notices. Additionally, sucrose fatty acid esters are permitted as multipurpose additives (21 CFR 172.859) for use as emulsifiers as defined in 21 CFR 170.3(o)(8) or as stabilizers as defined in §170.3(o)(28) in: Bakery mixes as defined in §170.3(n)(1); Chewing gum as defined in §170.3(n)(6); Coffee and tea beverages with added dairy ingredients or dairy product analogues; Confections and frostings as defined in §170.3(n)(9); Frozen dairy desserts and mixes as defined in §170.3(n)(20); and Whipped milk products. Furthermore, sucrose fatty acid esters may also be used as texturizers as defined in §170.3(o)(32) in: Biscuit mixes; Chewing gum as defined in §170.3(n)(6); Confections and frostings as defined in §170.3(n)(9); and Surimi-based fabricated seafood products. In addition to this, sucrose oligoesters are permitted as multipurpose additives (21 CFR 172.869) for use as an emulsifier (as defined in 170.3(o)(8) of this chapter) or stabilizer (as defined in 170.3(o)(28) of this chapter) in chocolate and in butter-substitute spreads, at a level not to exceed 2.0 percent. All these regulatory citations support the safety-in-use of sucrose fatty acid esters. The safety determination of sucrose fatty acid esters for the present GRAS assessment is based on the totality of available scientific evidence that includes human observations and a variety of preclinical and clinical studies. An Expert Panel was assembled to evaluate the health aspects of sucrose esters. Based on the available safety-related information, the estimated daily intake, if ingested daily over a lifetime at the 90th percentile intakes of 1.136 g/person, is safe.

F. Availability of Information:

The data and information that forms the basis of Sisterna B.V.'s sucrose fatty acid esters GRAS determination will be available for the Food and Drug Administration's review and copying at the following address or will be provided to the FDA upon request:

Madhu G. Soni, Ph.D., FATS
Soni & Associates Inc.,
749 46th Square,
Vero Beach FL, 32968
Phone: (772) 299-0746; E-mail: sonim@bellsouth.net

II. Detailed Information About the Identity of the Notified Substance:

Sucrose fatty acid esters are the mono-, di-, and tri-esters of sucrose with fatty acids and are derived from sucrose and edible vegetable oils such as palm oil and coconut oil. The fatty acid composition is fairly constant as it contains approximately 70% stearic acid and 30% palmitic acid (also 20% stearic acid and 80% palmitic acid).

A. Synonyms and Trade Name:

Sucrose esters of fatty acids, Sucrose esters, Sugar Ester, mono-, di-, and tri-ester of sucrose with edible fatty acids

The subject of this notification will be marketed under brand name as "Sisterna Sucrose Esters" and "DK-ester."

B. Physical Characteristics

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Sucrose fatty acid esters are stiff gels, soft solids, or white to slightly grayish white powders

C. Chemical Abstract Registry Number

The CAS numbers for sucrose esters have been reassigned recently. There is now one number for all Sisterna marketed sucrose esters: 84066-95-5. The earlier CAS numbers were as follows: Sucrose palmitate - 26446-38-8; Sucrose stearate - 25168-73-4; Sucrose distearate - 27195-16-0.

D. Codex INS Number

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E. Chemical Formula and Molecular Weight

Sucrose monopalmitate:	$C_{28}H_{52}O_{12}$;	580.7
Sucrose monostearate:	$C_{30}H_{56}O_{12}$;	608.8
Sucrose distearate:	$C_{48}H_{90}O_{13}$;	875.2

F. Structure

The structure of sucrose fatty acid esters is presented in Figure 1. In the figure, R represents the acyl group of the fatty acid. The fatty acids react with one or more (primary) hydroxyl groups of sucrose to form mono-, di- or tri-esters.

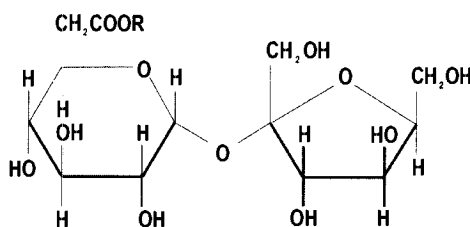


Figure 1. Chemical structures of sucrose fatty acid esters; R being the alkyl group of the fatty acid

G. Typical Specifications

As described in the Food Chemicals Codex (FCC, 2010), sucrose fatty acid esters occur as stiff gels, soft solids, or white to slightly gray-white powders. They are the mono-, di-, and triesters of sucrose with edible fatty acids. They may be prepared by reaction of sucrose with the methyl and ethyl esters of edible fatty acids, or edible, naturally occurring vegetable oils in the presence of food-grade solvents such as ethyl acetate, methyl ethyl ketone, dimethylsulfoxide, or isobutanol. Sucrose fatty acid esters are soluble in ethanol and, depending on the mono ester percentages, sparingly soluble in water. The functional uses of sucrose fatty acid esters in foods include emulsifier, stabilizer, and texturizer. These esters are recommended to be stored in tight containers and away from high temperatures.

The Sisterna product is manufactured by interesterification with methyl esters of fatty acids derived from vegetable oils. As compared to conventional purification methods where solvents are used, in the manufacturing of sucrose fatty acid esters, the subject of this GRAS assessment, only water is used to remove byproducts and impurities. Thus, the solvents (ethyl

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acetate, methyl ethyl ketone, or isobutanol) mentioned in the FCC or 21 CFR 172.859 are not used and the solvent specifications are not applicable.

Typical food grade specifications of sucrose fatty acids esters from the FCC and Sisterna are compared in Table 1. Sucrose fatty acid esters marketed by Sisterna, the subject of this Notification, meet the relevant specifications of section 172.859 and the FCC (Edition 7).

Table 1. Specifications of Sucrose Fatty Acid Esters

Parameter	FCC Requirements	Sisterna Product	Reference Method
Description	Stiff gels, soft solids, or white to slightly gray-white powders	Off-white powder, with neutral taste and odor	Visual inspection
Identification			
A Procedure	A yellow-white solid or oil forms that is soluble in 3 ml of ether.	Complies	FCC
B Procedure	The boundary surface of the two layers turns to blue or green.	Complies	FCC
Assay	NLT 80% of the combined mono-, di-, and triesters of sucrose	≥ 90% (total sucrose fatty acid esters)	SIS-01
Specific tests			
Acid value	NMT 6	≤ 5 mg KOH/g	SIS-05
Free sucrose	NMT 5%	≤ 2%	SIS-03
Free fatty acids (as oleic acid)	NR	≤ 3%	SIS-02
Residue on Ignition / Sulfated ash	NMT 2%	≤ 2%	SIS-06
Water	NR	≤ 4%	SIS-04
Heavy metals			
Mercury	NR	≤ 1 mg/kg	SIS-19
Cadmium	NR	≤ 1 mg/kg	SIS-20
Lead	NMT 2 mg/kg	≤ 2 mg/kg	SIS-22
Arsenic	NR	≤ 3 mg/kg	SIS-21
Organic impurities			
Dimethyl sulfoxide	NMT 2 mg/kg	≤ 2 mg/kg	SIS-10
Ethyl acetate	NMT 350 mg/kg	NA	NA
Isobutanol	NMT 10 mg/kg	NA	NA
Methanol	NMT 10 mg/kg	10 mg/kg	
Methyl ethyl ketone	NMT 10 mg/kg	NA	NA
Microbiology			
Aerobic Plate count,	NR	Complies with the Food Safety Act (FSA) 1990	SIS-11/SIS-12
Moulds and Yeasts,	NR		
Salmonella and Pathogens	NR		

NMT = Not more than; NLT = Not less than; NR = Nor reported; NA = Not applicable

H. Manufacturing process

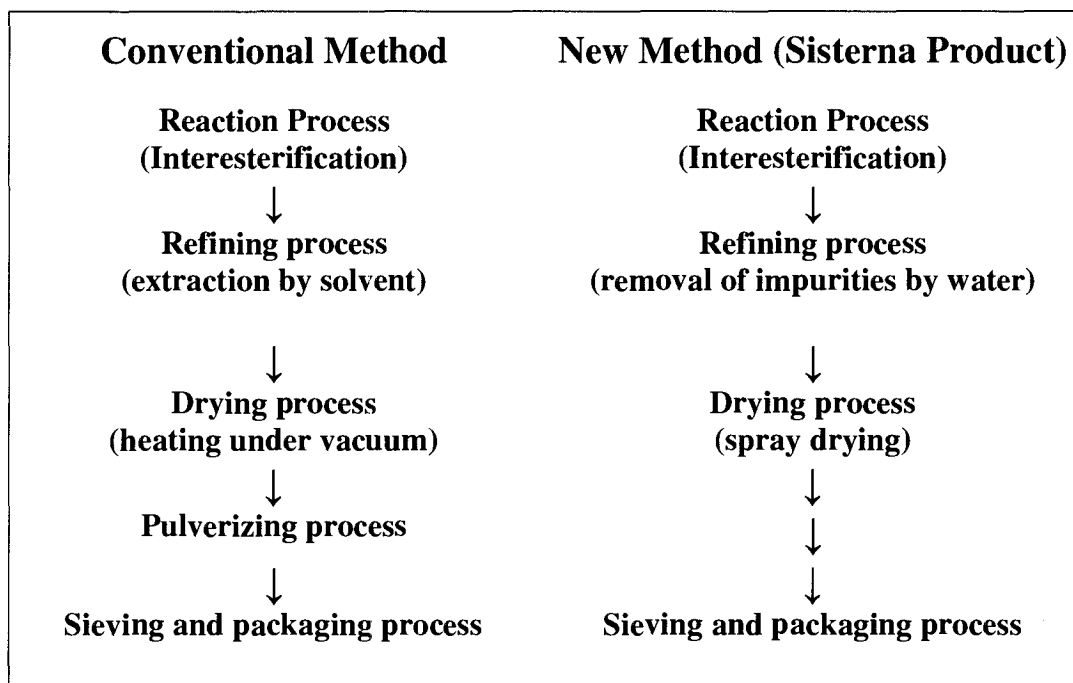
Sucrose fatty acid esters (mono-, di-, and tri-esters of sucrose with fatty acids) are derived from sucrose and edible vegetable oils. The first step in the manufacturing is preparation of

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fatty acid methyl esters that are formed by reacting fatty acids with methanol in the presence of a catalyst. The methyl esters thus formed are separated, followed by fractional distillation, mixing with water and a quality check is performed to make sure it meets food grade product standards. Methyl esters of fatty acids are subjected to inter-esterification with sucrose to manufacture the sucrose fatty acid esters. The solvent used in the preparation of sucrose fatty acid esters is dimethyl sulfoxide that is regulated for such use. The ratio of fatty acid methyl ester to sucrose establishes the degree of esterification. The product thus obtained is purified using water. As compared to conventional purification methods where solvents such as ethyl acetate, ethyl methyl ketone or isopropyl alcohol are used, only water is used to remove byproducts and impurities. Thus, the product contact with solvents is avoided. This purification process is compared with the conventional method in Figure 2.

All substances used in the manufacturing such as sucrose, edible vegetable oils (palm oil and coconut oil), potassium carbonate, dimethyl sulfoxide, hydrochloric acid, sodium hydroxide, calcium chloride, sodium chloride, are food grade as mentioned in 21 CFR 172.859 and the Food Chemicals Codex. Impurities and byproducts removal is carried out during the last step of sucrose fatty acid ester production. The food grade purification chemicals used in the manufacturing are removed during the washing process. Following the refining step the product is dried in spray dryers. The product thus obtained undergoes sieving followed by packaging.

Currently, Sisterna markets solvent purified sucrose fatty acid esters as per current FDA regulations. As the production process switches from solvent purification to water purification, solvent purified sucrose fatty acid esters may be used in some the food applications in place of water purified sucrose fatty acid esters.



**Figure 2. Manufacturing Process of Sucrose Fatty Acid Esters
(comparison of conventional and new method)**

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I. Intended Technical Effects

Sucrose fatty acid esters is intended for use as emulsifiers [21 CFR 170.3(o)(8)], stabilizers [21 CFR 170.3(o)(20)], and texturizers [21 CFR 170.3(o)(32)]. These esters are intended for use by the general population at levels ranging from 0.005 to 1.0% for addition to the following food categories: breakfast cereals; fats and oils; fish products; grain products and pastas, gravies and sauces; meat products; other; poultry products, processed fruits and fruit juices; and processed vegetables and vegetable juices, and as a diluent in fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances. It is recognized that there are Standard of Identity requirements for some of these foods, described in Title 21 of the Code of Federal Regulations. If used in such foods, the name will be changed so as not to be confused with the standardized food.

III. Summary of the Basis for the Notifier's Determination that Sucrose Fatty Acid Esters is GRAS

An independent panel of recognized experts, qualified by their scientific training and relevant national and international experience to evaluate the safety of food and food ingredients, was requested by Sisterna B.V. to determine the Generally Recognized As Safe (GRAS) status of sucrose fatty acid esters. A comprehensive search of the scientific databases for safety and toxicity information on sucrose fatty acids was conducted through December 2013. Additionally, safety and regulatory evaluations by national and international agencies were also searched and considered for the present assessment. Based on a critical evaluation of the pertinent data and information summarized here and employing scientific procedures, the Expert Panel members have individually and collectively determined that the addition of sucrose fatty acids esters to the foods (breakfast cereals; fats and oils; fish products; grain products and pastas, gravies and sauces; meat products; other; poultry products, processed fruits and fruit juices; and processed vegetables and vegetable juices, and as a diluent in fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances), when not otherwise precluded by a Standard of Identity, meeting the specification cited above and manufactured in according with current Good Manufacturing Practice, is Generally Recognized As Safe (GRAS) under the conditions of intended use, as specified herein.

In coming to this decision that sucrose fatty acid esters is GRAS, the Expert Panelists relied upon the conclusions that neither sucrose fatty acid esters nor any of its constituents pose any toxicological hazards or safety concerns at the intended use levels, as well as on published toxicology studies and other articles relating to the safety of the product. It is also the opinion of the Expert Panelists that other qualified and competent scientists, reviewing the same publicly available toxicological and safety information, would reach the same conclusion. The GRAS Panel did not prepare a separate report or statement, but reviewed the entire GRAS dossier.

For use as a food ingredient, sucrose fatty acid esters were the subject of three GRAS Notices (GRN 421; GRN 248; GRN 129) that have been accepted and filed by the FDA. The safety information and other relevant information are hereby incorporated by reference into this document and was considered in evaluating the GRAS status of Sisterna B.V.'s intended use of sucrose fatty acid esters. A synopsis of the pertinent information in these documents is presented below.

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IV. Basis for a Conclusion that Sucrose Fatty Acid Esters is GRAS for its Intended Use

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DETERMINATION OF THE GENERALLY RECOGNIZED AS SAFE (GRAS) STATUS OF SUCROSE FATTY ACID ESTERS AS FOOD INGREDIENT

1. INTRODUCTION

The undersigned, an independent panel of recognized experts (hereinafter referred to as the Expert Panel)¹, qualified by their scientific training and relevant national and international experience to evaluate the safety of food and food ingredients, was convened by Soni & Associates Inc., at the request of Sisterna B.V., The Netherlands, to determine the Generally Recognized As Safe (GRAS) status of sucrose fatty acid esters as emulsifiers [21 CFR 170.3(o)8], stabilizers [21 CFR 170.3(o)(20)], and texturizers [21 CFR 170.3(o)(32)] in foods such as breakfast cereals; fats and oils; fish products; grain products and pastas, gravies and sauces; meat products; other; poultry products, processed fruits and fruit juices; and processed vegetables and vegetable juices, at use levels ranging from 0.005 to 1.0% and as a diluent in fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances at use levels of 0.0003 to 2.9% (in final food) resulting in maximum (90th percentile) estimated cumulative daily intake of 1.136 g/person or 19.1 mg/kg bw/day (including those from existing or approved food uses of sucrose fatty acid esters). A comprehensive search of the scientific literature for safety and toxicity information on sucrose fatty acid esters was conducted through December 2013 and made available to the Expert Panel. The Expert Panel independently and critically evaluated materials submitted by Sisterna B.V. and other information deemed appropriate or necessary. Following an independent, critical evaluation, the Expert Panel conferred on April 8, 2014 and unanimously agreed to the decision described herein.

1.1. Background

Sucrose fatty acid esters are nonionic surfactants consisting of sucrose as hydrophilic group and fatty acid as lipophilic group. Sucrose esters of fatty acids, which are a mixture of sucrose esters of fatty acids and mono-, di- and triglycerides from edible fats or oils, are food additives permitted around the world for use as emulsifiers and stabilizers for oil/water emulsions in several foods. Being based on sucrose and edible fatty acids, sucrose esters are a unique category of high quality, nonionic emulsifiers. Besides its primary use in emulsification, sucrose fatty acid esters have additional functionalities for which they can be employed in a wide range of food applications. Other functions are starch interaction, protein interaction, sugar crystallization and aeration. These functions can affect production and the quality of the end product. Sucrose fatty acid esters are obtained by esterifying one or more of the (primary) hydroxyl groups of the sucrose molecule with fatty acids. By varying the degree of esterification of the sucrose molecule it is possible to obtain emulsifiers with HLB² values ranging from 1 up to 16 for the high mono-esters³. Sisterna B.V. intends to use these sucrose fatty acids esters in selected food categories.

¹ See also attachments (curriculum vitae) documenting the expertise of the Panel members.

² The Hydrophilic-lipophilic balance (HLB) is a measure of the degree to which a substance is hydrophilic or lipophilic, determined by calculating values for the different regions of the molecule.

³ It should be noted that high mono-esters will not have a low HLB value. The ones with low mono-ester (mono-ester of 0 up to 20) have automatically a low HLB value (1-5). The ones with high mono-ester (30-75) have a high HLB value (6-16). Actually mono ester 100 also does exist with HLB 20.

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1.2. Chemistry

As the sucrose molecule has a total of 8 hydroxyl groups, compounds ranging from sucrose mono- to octa- fatty acid esters can be formed. Thus, the fatty acids form esters with the hydroxyl groups in the sucrose molecule and, in principle, one sucrose molecule could accommodate a total of eight fatty acid molecules.

1.3. Description, Manufacturing Process and Specifications

In general, sucrose esters can be divided into three groups: 1. The lower esters (mono-, di- and tri-esters that are regulated as multipurpose food additives (21 CFR 172.859). 2. The octa-ester also known as olestra also regulated as multipurpose food additives (21 CFR 172.867), and 3. The mid-range esters were the subject of a Food Additive Petition (FDA 2003a). The lower esters meeting the specifications described at 21 CFR 172.859 are the subject of this GRAS Notification.

Sucrose fatty acid esters are prepared by esterification of sucrose with methyl esters of fatty acids. The fatty acids used for this process are derived from edible vegetable oil or hydrogenated edible vegetable oils. Sucrose fatty acid esters are stiff gels, soft solids, or white to slightly grayish white powders. FDA has established food grade specifications for sucrose fatty acid esters as codified in 21 CFR 172.859. Additionally, the FCC has also published a monograph on sucrose fatty acid esters that includes specifications. The subject of this Notification, sucrose fatty acid esters, meets relevant specifications as codified in 21 CFR section 172.859 and the FCC.

1.4. Technical effects

Sucrose fatty acid esters are intended for addition to a specified number of conventional food categories as emulsifiers, stabilizers and texturizers.

1.5. Current Approved Uses

Sucrose fatty acid esters (21 CFR 172.859) may be used in accordance with current good manufacturing practice and in an amount not to exceed that reasonably required to accomplish the intended effect as emulsifiers [21 CFR 170.3(o)(8)], or as stabilizers [21 CFR 170.3(o)(28)] in baked goods and baking mixes, in chewing gum, in coffee and tea beverages with added dairy ingredients and/or dairy product analogues, in confections and frostings, in dairy product analogues, in frozen dairy desserts and mixes, and in whipped milk products. Sucrose fatty acid esters can be used as texturizers [21 CFR 170.3(o)(32)] in biscuit mixes, in chewing gum, in confections and frostings, and in surimi-based fabricated seafood products. Additionally, sucrose fatty acid esters can be used as components of protective coatings applied to fresh apples, avocados, bananas, banana plantains, limes, melons (honeydew and cantaloupe), papaya, peaches, pears, pineapples, and plums to retard ripening and spoiling. In addition to these applications, and according to three GRAS notices that received no question letter from FDA, sucrose fatty acid esters are considered as GRAS for use as: (1) as an emulsifier in beta-carotene color preparations intended for use in orange-colored beverages such as soft drinks and juices at a level not more than 2 percent of the beta-carotene color preparation (GRN 129; FDA, 2003b); (2) as emulsifiers in fruit-flavored beverages and beverage concentrates, at levels up to 50 mg/l as consumed (GRN 248, FDA, 2008); and (3) as surface-active agents (i.e., foaming agents) at a maximum level of 0.2 percent in foams produced using alcoholic beverages (GRN 421; FDA, 2012).

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In European countries, sucrose esters of fatty acids are approved food additives (E 473) allowed to be used in a wide range of food stuffs, including beverages. In Europe, sucrose fatty acid esters are permitted for use in beverages such as non-alcoholic aniseed-based drinks, non-alcoholic coconut and almond drinks, spirituous beverages (excluding wine and beer), dairy-based drinks, canned liquid coffee, non alcoholic clear/colorless beverages and for use in food stuffs such as heat-treated meat products, fat emulsions for baking purposes, fine bakery wares, beverage whiteners, edible ices, sugar confectionery, desserts, sauces, soups and broths, fresh fruits, powders for the preparation of hot beverages, food supplements, chewing gum, cream analogues, and, sterilized cream and sterilized cream with reduced fat content. The permitted levels for beverages and food stuff ranges from 0.0023 to 2%.

The available information suggests that sucrose fatty acid esters in the United States and around the world have been used in food for more than 20 years and thus has a history of safe use.

1.6. Intended Use Levels and Food Categories

Sisterna B.V. intends to use sucrose fatty acid esters as a food ingredient in breakfast cereals; fats and oils; fish products; grain products and pastas, gravies and sauces; meat products; other; poultry products, processed fruits and fruit juices; and processed vegetables and vegetable juices, at use levels ranging from 0.005 to 1.0% and as a diluent in fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances at use levels of 0.0003 to 2.9% (in final food). The proposed food categories and the intended use levels as well as existing uses of sucrose fatty acids are summarized in Table 2. Sisterna B.V. intends to add sucrose esters to a specific type of potato based cracker snack that is not found in the NHANES survey food codes. The shape of this snack mimics potato sticks and Hickory sticks, hence food codes for these two products are considered in the intakes estimates to represent the specific potato based cracker snack.

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Table 2. Summary of the Individual Approved and Proposed Food Uses and Use Levels for Sucrose Fatty Acid Esters in the U.S.

Food Category	Food-Uses	Sucrose Fatty Acid Esters Use Level	Flour Content	Use Level (%)
Approved Food Uses				
Alcoholic Beverages	Mixed Drinks, Cocktails, and Dessert Drinks	-	-	0.2
Baked Goods and Baking Mixes	Biscuit Mixes	-	-	1.0
	Cakes	-	-	0.5
	White Breads	1.0% (by wt. of flour)	1 to 55%	0.01 to 0.55
	White Rolls	1.0% (by wt. of flour)	1 to 48%	0.01 to 0.48
Beverages and Beverage Bases	Fruit-Flavored Beverages	-	-	0.005
Chewing Gum	Chewing Gum	-	-	0.5
Confections and Frostings	Frostings	-	-	0.5
Dairy Product Analogs	Coffee Whiteners	-	-	0.5
Fats and Oils	Margarine	-	-	0.5
Fish Products	Surimi-Based Fish Products	-	-	1.0
Fresh Fruits and Vegetables	Raw Fruits	-	-	0.0056 to 0.0083
Frozen Dairy Desserts and Mixes	Ice Cream, Ice Milk, and Sherbet	-	-	0.3
Milk Products	Dairy-Based Toppings	-	-	2.0
Proposed Food Uses				
Breakfast Cereals	RTE Breakfast Cereals	-	-	0.2
Fats and Oils	Fat Emulsions for Bakery Wares ^a	-	-	1.0
	Mayonnaise and Mayonnaise-Type Dressings	-	-	0.5
	Salad Dressings	-	-	0.5
Fish Products	Battered Fried Fish Products	-	-	0.3
Grain Products and Pastas	Cereal Bars	-	-	0.2
Gravies and Sauces	Sauces and Cooking Sauces	-	-	0.5
Meat Products	Battered Fried Meat Products	-	-	0.3
Other	Fat-Soluble Colors ^b	-	-	0.0003 to 2.9 (in final food)
	Fat-Soluble Flavors ^c	-	-	
	Fat-Soluble Nutraceputical Substances ^c	-	-	

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Table 2. Summary of the Individual Approved and Proposed Food Uses and Use Levels for Sucrose Fatty Acid Esters in the U.S.

Food Category	Food-Uses	Sucrose Fatty Acid Esters Use Level	Flour Content	Use Level (%)
Poultry Products	Battered Fried Poultry Products	-	-	0.3
Processed Fruits and Fruit Juices	Processed Fruit Filling Preparations ^d			0.5
Processed Vegetables and Vegetable Juices	Battered Fried Vegetable Products	-	-	0.3
	Potato Stick Type Products	-	-	0.5

RTE = ready-to-eat

^a No food codes for these food uses were available in the NHANES 2003-2008 databases; however, food codes for wafers containing fillings were used as surrogate food codes.

^b No food codes were identified for fat-soluble colors in the NHANES 2003-2008 databases; however, food uses and use levels in which β -carotene, lycopene, carmine, turmeric, and turmeric oleoresin are permitted were selected to approximate the consumption of sucrose esters from its proposed use in fat-soluble colors.

^c No food codes were identified for fat-soluble flavors and fat-soluble nutraceutical substances in the NHANES 2003-2008 databases; however, the use levels for fat-soluble colors was assumed to represent the exposure to all 3 categories (*i.e.*, fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances).

^d No food codes for these food uses were available in the NHANES 2003-2008 databases; however, food codes for yogurts and pastries containing processed fruit-filling preparations were used as surrogate food codes.

1.6.1. Estimated Daily Intake from the Intended Uses

Estimates for the intake of sucrose fatty acid esters (Appendix I) were based on the existing and proposed food uses and use levels in conjunction with food consumption data included in the U.S. National Center for Health Statistics' (NCHS) National Health and Nutrition Examination Surveys (NHANES). The data from the 2003-2004, 2005-2006, and 2007-2008 cycles of the NHANES survey were combined to provide a larger population from which to estimate sucrose fatty acid esters consumption. Calculations for the mean and 90th percentile all-person and all-user intakes were performed for each of the individual existing and proposed food uses of sucrose fatty acid esters and the percentage of consumers were determined. Similar calculations were used to estimate the total intake of sucrose fatty acid esters resulting from all existing and proposed food uses of sucrose fatty acid esters combined. In both cases, the per person and per kilogram body weight intakes were performed for different age groups.

Based on the exposure estimates summarized in Appendix I, approximately 99% of the total U.S. population was identified as potential consumers of sucrose fatty acid esters from existing and proposed food uses (23,896 actual users identified). Consumption of existing and proposed food uses by the total U.S. population resulted in an estimated mean all-person and all-user intakes of sucrose fatty acid esters of 583 mg/person/day (9.5 mg/kg bw/day) and 589 mg/person/day (9.6 mg/kg bw/day), respectively. The 90th percentile all-person and all-user intakes of sucrose fatty acid esters from existing and proposed food uses by the total population were 1,132 mg/person/day (19.0 mg/kg bw/day) and 1,136 mg/person/day (19.1 mg/kg b/day), respectively. Of the individual population groups, male adults were determined to have the greatest mean and 90th percentile all-user intakes of sucrose fatty acid esters on an absolute basis, at 735 and 1,358 mg/person/day, respectively, while infants had the lowest mean and 90th

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percentile all-user intakes of 193 and 428 mg/person/day, respectively. On a body weight basis, children and infants were identified as having the highest mean and 90th percentile all-user intakes, corresponding to 17.4 and 35.2 mg/kg bw/day, respectively. A summary of dietary intake calculations from the intended food categories is presented in Table 3 and 4.

It is important to note that these estimates are likely large overestimates of actual intakes of sucrose fatty acid esters resulting from the proposed uses in the food supply. In the calculations of estimated intakes, any reported intake of a food corresponding to one of the proposed as well as the existing use categories (Table 2) was assumed to contain added sucrose fatty acid esters. Additionally, all foods were assumed to contain the maximum proposed concentration of sucrose fatty acid esters per serving. It is likely that consumers may in fact consume only a subset of these foods containing added sucrose fatty acid esters, and, additionally, not all products may contain the maximum proposed use levels.

Table 3. Summary of the Estimated Daily Intake of Sucrose Fatty Acid Esters from All Existing and Proposed Food Uses in the U.S. by Population Group (2003-2008 NHANES Data)

Population Group	Age (Years)	Percent Users	Actual # of Users	All-Person		All-User	
				Mean (mg)	90 th Percentile (mg)	Mean (mg)	90 th Percentile (mg)
Infants	0 to 2	81.2	2,036	157	386	193	428
Children	3 to 11	99.9	4,075	462	846	463	847
Female Teenagers	12 to 19	100.0	2,479	502	938	502	938
Male Teenagers	12 to 19	100.0	2,449	664	1,204	664	1,204
Female Adults	20 and up	99.8	6,745	536	1,028	536	1,029
Male Adults	20 and up	100.0	6,112	735	1,358	735	1,358
Total Population	All Ages	99.1	23,896	583	1,132	589	1,136

Table 4. Summary of the Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from All Existing and Proposed Food Categories in the U.S. by Population Group (2003-2008 NHANES Data)

Population Group	Age (years)	Percent Users	Actual # of Users	All-Person		All-User	
				Mean (mg/kg bw)	90 th Percentile (mg/kg bw)	Mean (mg/kg bw)	90 th Percentile (mg/kg bw)
Infants	0 to 2	81.2	2,036	12.8	32.1	15.7	35.2
Children	3 to 11	99.9	4,075	17.4	32.7	17.4	32.7
Female Teenagers	12 to 19	100.0	2,479	8.6	16.8	8.6	16.8
Male Teenagers	12 to 19	100.0	2,449	10.3	20.6	10.3	20.6
Female Adults	20 and up	99.8	6,745	7.5	14.5	7.5	14.6
Male Adults	20 and up	100.0	6,112	8.6	16.2	8.6	16.2
Total Population	All Ages	99.1	23,896	9.5	19.0	9.6	19.1

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2. DATA PERTAINING TO SAFETY

2.1. Preamble

In a series of comprehensive safety evaluations by national and international agencies such as FDA, EFSA and JECFA, the sucrose fatty acid esters have been extensively reviewed and demonstrated to be safe for use as ingredient in food. In a series of published experimental studies toxicity potentials of sucrose fatty acid esters have been investigated. These studies include metabolic (*in vitro* and *in vivo*) experiments, short- and long-term toxicity in experimental animals as well as toxicokinetic studies in animals and humans. In several toxicity studies, the sucrose fatty acid esters studied consisted of a mixture of stearic acid and palmitic acid (70/30) where some of the preparations are primarily monoesters with lesser amounts of diesters and triesters. In other studies the preparations consisted of mixtures of lower levels of monoesters but higher amounts of diesters and triesters. The available evidence suggest that monoesters are completely hydrolyzed by the intestinal cells prior to absorption, while the higher esters are not hydrolyzed completely and thus are not absorbed and are excreted in the feces.

In recent years, as the new safety-related data and additional new uses for sucrose fatty acid esters have been requested, the regulatory agencies have also updated their evaluations. The majority of these studies are described in the EFSA scientific opinion and FDA notifications. In recent years, FDA did not question the acceptability and suitability of the available evidence to support the proposed uses in these notices and replied to all three notifications the agency received with recognition of the notifiers request and a statement that they had no questions regarding the conclusions that the sucrose fatty acid esters are GRAS for the intended applications. Given the similarity between the FDA notices, as well as the subject of the EFSA scientific opinion and the present GRAS determination, it is instructive to review the information presented in these documents on sucrose fatty acid esters from a safety perspective. In the following section, an attempt has been made to present the relevant safety-related data of sucrose fatty acid esters to support its intake from the intended uses described in this monograph.

2.2. GRAS Notices on Sucrose Fatty Acid Esters

2.2.1. GRN 000129

This GRAS notice relates to the use of sucrose fatty acid esters as an emulsifier in beta-carotene, beta-apo-8-carotenol (apocarotenol), and canthaxanthin color additive preparations when these preparations are added to beverages, crackers, soups and sauces (Mitsubishi 2003; FDA, 2003b). The intended use was estimated to result in the consumption of approximately 8 mg/person/day at the 90th percentile of intake and the cumulative exposure to sucrose fatty acid esters arising from all uses in the U.S. would be no more than 60 mg/person/day. The subject of the notice was described as a grayish white powder, stiff gel or soft solid and is a mixture of mono-, di-, and tri-esters of sucrose with fatty acids derived from edible vegetable or hydrogenated edible vegetable oils and fats. The notifier described published studies relating to the absorption, distribution, metabolism and excretion of sucrose fatty acids esters in humans demonstrating that pancreatic lipase in the small intestine completely converts sucrose fatty acid esters to sucrose and fatty acids prior to absorption. The notice also described published studies conducted with sucrose fatty acid esters, including a subchronic 13-week rodent feeding study. A two-year chronic toxicity rodent feeding study was also described. The results of these studies did not show treatment-related adverse effects in either the 13-week study or two-year study. The

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notifier also reported that sucrose fatty acid esters have been considered to be safe by regulatory bodies in Japan, Europe and North America. The JECFA has reviewed sucrose fatty acid esters on eight occasions and, most recently, concluded that the data supports an acceptable daily intake of 30 mg/kg bw/day, which would correspond to 1800 mg/person/day for a 60 kg adult. The FDA reviewed the notice and responded to the notifier that, based on the information provided in the notification, as well as other information available to the FDA, the agency has no questions at this time regarding the conclusion that sucrose fatty acid esters are GRAS under the intended conditions of use.

2.2.2. GRN 000248

The subjects of this GRAS notice are sucrose fatty acid esters (i.e., sucrose monoesters of lauric acid, palmitic acid, and stearic acid) manufactured by reaction of sucrose with vinyl esters of lauric, palmitic, and stearic acids (Compass, 2008; FDA, 2008). The manufacturing method used is different from the traditional method as the starting fatty acid esters are vinyl esters rather than the traditional methyl esters. The notice informed FDA that sucrose fatty acid esters manufactured by this alternative method are GRAS for use as emulsifiers in fruit-flavored beverages and beverage concentrates, at levels up to 50 mg/L as consumed. The notifier described sucrose fatty acid esters as white to grayish powders composed of sucrose monoesters (not less than 83 percent) of lauric acid, palmitic acid, or stearic acid and lesser amounts of di- and tri-esters. The estimated daily intake from the proposed uses and current existing uses was determined as 12.6 mg/kg bw/day. The notifier stated that the estimated daily intake was below the current acceptable daily intake for sucrose fatty acid esters of 30 mg/kg bw/day, as assigned by the JECFA. The notification discusses the metabolic fate of sucrose fatty acid esters to show that the majority of sucrose monoesters are hydrolyzed into sucrose and fatty acid components that are absorbed in the intestinal tract. Conversely, the majority of diesters and triesters are neither hydrolyzed nor absorbed. Additionally, the results of published mutagenicity and toxicology studies of sucrose fatty acid esters of palmitic and stearic acids and lauric acid were also described. The notifier concluded that the results of the toxicity studies demonstrate the safety of sucrose fatty acid esters of palmitic, stearic, and lauric acids and supports GRAS determination. Based on the information provided in the notification, as well as other information available to the FDA, the agency did not question the conclusion that sucrose fatty acid esters are GRAS under the intended conditions of use.

2.2.3. GRN 000421

In this recent notice, the notifier informed FDA that sucrose fatty acid esters are GRAS, through scientific procedures, for use as surface-active agents (i.e., foaming agents) at a maximum level of 0.2 percent in foams produced using alcoholic beverages (Libaeration, 2012; FDA, 2012). The sucrose fatty acid esters described in the notice were reported to be manufactured using food-grade materials and good manufacturing practices; the finished food-grade sucrose fatty acid esters meet the specifications established in 21 CFR 172.859 and in the current FCC edition. The daily intake of sucrose fatty acid esters was estimated from foams applied to alcohol-based mixed drinks, using spirit consumption data. Assuming that 100% of alcohol-based mixed drinks will be topped with foam made with sucrose fatty acid esters at the intended use level, the estimated daily intake was determined as 0.04 mg/kg bw/day. The cumulative daily intake of sucrose fatty acid esters taking into consideration the proposed use in foams and in foods as described in 21 CFR 172.859 and in GRNs 129, 176, and 248 was estimated as approximately 26 mg/kg bw/day (based on an additive approach).

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The notifier discussed the safety of sucrose fatty acid esters, incorporating by reference the safety information previously summarized in GRN 129 and in reports of the JECFA on this subject. The published animal studies discussed included a 13-week toxicity study and a combined carcinogenicity/chronic toxicity study, both conducted in rats. In the two year carcinogenicity/chronic toxicity study, the maximum sucrose fatty acid esters dose administered to Fischer F344/DuCrj male rats was 1970 mg/kg bw/day and female rats was 2440 mg/kg bw/day. No toxicologically significant effects were reported in this or any of the other cited studies. The notifier stated that it conducted a comprehensive literature search in November 2011, which did not identify any relevant toxicological data beyond the data previously described in GRN 129 and the JECFA reports. The notifier noted that JECFA reviewed the rat toxicity study data, along with additional human tolerance data, and concluded that the use of an ADI of 0-30 mg/kg bw/day would be appropriate. The JECFA acceptable daily intake is based on the NOAEL of 2000 mg/kg bw/day utilizing a safety factor of 50. Although this procedure would yield an ADI of 40 mg/kg bw/day, the ADI was limited to 30 mg/kg bw/day on the basis of human tolerance study data, which showed potential laxative effects at doses exceeding 30 mg/kg bw/day. In a response letter to the notifier on August 10, 2012, FDA stated that the agency has no questions regarding the conclusion that sucrose fatty acid esters are GRAS under the intended conditions of use.

2.3. JECFA Evaluation

In a series of assessments over the years, starting from 1969 at its 13th meeting, JECFA has frequently evaluated the safety of sucrose fatty acid esters. In 1992 and 1995, JECFA evaluated sucrose esters of fatty acids (and sucroglycerides) and in 1995 JECFA allocated a temporary group acceptable daily intake (ADI) of 0-20 mg/kg bw/day (WHO, 1995). JECFA designated the ADI as temporary and requested the results of a tolerance study. The ADI was based on a long-term toxicity/carcinogenicity study in which no adverse effects were noted in rats fed diet at levels up to 5%, equivalent to 1970 and 2440 mg/kg bw/day in males and females, respectively. The ADI based on this study was determined to be 19.7 mg/kg bw/day using the lower NOAEL calculated for male rats and the traditional 100-fold safety factor for a chronic study. In 1997, JECFA evaluated a human tolerance study and established a full group acceptable daily intake of 0-30 mg/kg bw (WHO, 1998). In revising the ADI at the 1997 meeting, JECFA noted that a safety factor of only 50, rather than 100, can be used to derive an ADI from this particular study. According to JECFA, "the lower safety factor was considered appropriate for sucrose esters of fatty acids since these compounds are hydrolyzed to normal dietary constituents in the gastrointestinal tract prior to absorption." A straight forward application of the 50-fold safety factor would have yielded an ADI of approximately 40 mg/kg bw. However, because the potential of sucrose esters to induce laxation at this high dose (2.4 grams per day for a 60-kg adult) could not be excluded, JECFA capped the ADI at 30 mg/kg bw, which corresponds to the highest dose and the no-effect-level in a human tolerance study reviewed by JECFA. This is discussed in JECFA's 1998 toxicological monograph for "Sucrose Esters of Fatty Acids and Sucroglycerides." Most recently in 2009, JECFA established a group ADI of 0-30 mg/kg bw/day for sucrose esters of fatty acids, sucroglycerides and sucrose oligoesters type I and type II (JECFA, 2009). The most recent specifications for sucrose esters of fatty acids (not less than 80% sucrose esters) have been prepared by the JECFA at its 68th meeting in 2007 (JECFA, 2007).

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2.4. European Union Evaluation

In European countries, sucrose esters of fatty acids (E 473) are authorized for use in a variety of foods via Directive 95/2/EC of the European Parliament and Council on food additives. In 1992, EC Scientific Committee for Food (SCF) evaluated sucrose esters of fatty acids and established a group ADI of 0-20 mg/kg bw/day (expressed as sucrose monostearate) for sucrose esters of fatty acids and sucroglycerides derived from palm oil, lard and tallow fatty acids. Subsequently in 2004, in light of new studies, EFSA re-evaluated the safety of these food additives and established a group ADI of 40 mg/kg bw/day for sucrose esters of fatty acids (E 473) and sucroglycerides (E 474). However, sucrose esters of lauric acid were not considered in these evaluations. The Panel considered that, although the toxicological data on the sucrose ester of lauric acid are limited, they do not give rise to concerns as lauric acid is a natural constituent of a number of foods. Recently, in 2010, EFSA evaluated the safety of sucrose esters of fatty acids produced by a new manufacturing method from sucrose and vinyl esters of fatty acids and concluded that sucrose esters of fatty acids produced by the new manufacturing method do not present any safety concern provided the exposure is within the ADI of 40 mg/kg bw/day for sucrose esters of fatty acids and sucroglycerides. The Panel also noted that the current intake of sucrose esters of fatty acids is high and for some individuals is above the ADI.

More recently, in 2012, EFSA provided an opinion on the exposure assessment of sucrose esters of fatty acids (E 473) from its use as a food additive. The EFSA panel concluded that the current exposure estimates of sucrose fatty acid esters differ considerably from those of the earlier opinion with an observed reduction ranging from 55 to 65%, depending on the considered population. The Panel noted that the difference in exposure estimates results from the differences in the use levels for the surface treatment for fruits which was 18 g/kg fruit in the earlier exposure assessment as compared to the new value of 0.023 g/kg fruit based on the data provided to EFSA. The Panel concluded that the total mean and high intake (95th percentile) of sucrose esters of fatty acids amounts to 13.1 and 22.6 mg/kg bw/day for adults and to 19.6 and 42.8 mg/kg bw/day for children, respectively. For children, as high level consumers, the estimated intake exceeds by 7% the group ADI of 40 mg/kg bw/day for sucrose esters of fatty acids (E 473) and sucroglycerides (E 474) previously established (EFSA, 2004).

2.5. Recent Safety Publications

A literature search of recent publications from scientific databases such as PubMed and Toxline was conducted on sucrose fatty acid esters to determine whether any additional or new publications appeared during the past year since the submission of GRAS notice GRN 421. The literature search did not reveal any new safety-related or relevant studies. Hence, all data and information used in support of this GRAS affirmation is the same as that presented in previous GRNs 129, 248 and 421 and the data made available to EFSA and JECFA and further its safe history of use.

2.6. Summary of Safety Studies

2.6.1. Metabolism

As described in GRN 129 (Mitsubishi, 2003), the *in vitro* (Shigeoka et al., 1984) and *in vivo* (Noker et al., 1997) pharmacokinetic studies demonstrate that virtually no intact sucrose fatty acid esters are absorbed as such, except for a small amount (0.33%) of monoester (Hirano et al., 1994). The higher esters (di-, tri-, tetra-, and higher) are absorbed only after hydrolysis to

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sucrose and fatty acids. The extent of hydrolysis of sucrose fatty acid esters depends on the degree of esterification. It has been reported that the higher esters of sucrose with fatty acids, the octa-esters and hepta-esters present in the fat substitute Olestra, are not absorbed by humans and are excreted unchanged. Some amount of the di-, tri-, and tetra-esters is excreted unchanged and a small amount is hydrolyzed or partially hydrolyzed to form edible fatty acids, free sucrose, and/or sucrose esters with a lower degree of esterification. Similar to the conversion of triglycerides into glycerol and fatty acids, the pancreatic lipase in the gastrointestinal tract are expected to hydrolyze the sucrose esters to sucrose and fatty acids (Berry and Turner, 1960). It has been demonstrated that fatty acid esters that contained more than three ester groups are not hydrolyzed by pancreatic lipase (Mattson and Nolen, 1972).

In summary, the available information suggests that, with the possible exception of a very small amount of mono-ester (i.e., 0.33%), the intact esters are not absorbed as such. The esters are hydrolyzed to sucrose and fatty acids that are well-known food constituents and are absorbed only following hydrolysis. The increase in degree of esterification of sucrose esters is inversely correlated with hydrolysis. The extent to which sucrose esters are absorbed decreases to essentially zero in the case of the higher esters such as octa-ester.

2.7. Animal Studies

Takeda and Flood (2002) conducted a 13-week and a 2-year feeding study in Fischer 344 rats to evaluate the oral toxicity and carcinogenicity of a mixture⁴ of mono-, di-, tri-, and higher esters of sucrose with fatty acids. In both studies, sucrose fatty acid esters were fed at 0, 1, 3, or 5% of the diet to rats. The group size in the 13-week study was 20/sex/group, while in the carcinogenicity study it was 50/sex/group. In the latter study, animals in satellite groups of 14 rats/sex/dose were sacrificed at 12 months to evaluate chronic toxicity.

In the subchronic study the resulting intake of sucrose esters of fatty acids was equivalent to 636, 1990, or 3240 mg/kg bw/day in males and 666, 1950, or 3430 mg/kg bw/day in females. No adverse clinical signs or consistent effects on body weights, food consumption or food efficiency were noted following administration of sucrose esters of fatty acids. Similarly, no treatment-related macroscopic, organ weight or histopathological changes were noted. There were no significant toxicological effects on hematological, clinical chemistry and urinalysis parameters. Increased blood level of albumin was noted in males at the mid- and high-doses, but these findings could not be related to other abnormalities. A small decrease (< 3.5%) in absolute kidney weight was noted in males but not in females at 3 and 5% level of sucrose fatty acid esters. No macroscopic, organ weight or histopathological changes were observed that could be attributed to the treatment (Takeda and Flood, 2002).

In the combined chronic oral toxicity (14 rats/sex/dose for 52 weeks) and carcinogenicity study (50 rats/sex/dose for 104 weeks), the rats fed 0, 1, 3 or 5% sucrose fatty acid esters in the diet received 0, 394, 1160, or 1970 mg/kg bw/day in males and 0, 480, 1440 or 2440 mg/kg bw/day in females. At 52 (100%) and 104 weeks (66-76%) survival was not affected by the treatment. Food efficiency was not affected, but reduction in food intake in males and females was noted initially for a few weeks in the mid- and high-dose groups. A reduction in body weight gain ($\geq 97\%$ of controls) was noted with random incidence during the first 49 weeks in males

⁴ The mixture is commercially designated as S-570 that contains approximately 29% mono-ester, 35% di-ester, 25% tri-ester, and 11% tetra- and higher esters. The fatty acid composition of S-570 is 70% stearic acid palmitic acid.

receiving the 5% test material. However, during the second year of the study body weight gain was normal. Mean corpuscular volume (MCV) primarily in high-dose males and females showed a significant increase at many of the sampling points. Additionally, sporadic significant decreases were noted in red blood cell count, hemoglobin concentration, mean corpuscular hemoglobin concentration (MCHC) and platelet count. However, these changes were small and were not considered to be toxicologically significant by the investigators. No treatment-related effects were noted in the clinical chemistry parameters or at the ophthalmological examinations (Takeda and Flood, 2002).

In the 104 weeks study, at termination absolute and relative spleen weights were significantly increased in male rats receiving 3 and 5% sucrose fatty acid esters and in females at 3% (but not in females at 5%). Microscopic examination of tissues did not reveal significant difference between treated and control animals related to the test substance. There were no lesions in the GI tissues, mesenteric lymph nodes, or liver. A slight increase in extramedullary hematopoiesis (EMH) was noted in the spleen in the animals euthanized after 104 weeks. These incidences were not statistically significant. A slight increase in LGL leukemia was observed in both sexes, but the increases were not statistically significant and were not unexpected given the high historical incidence of these lesions in this strain of rat. The NOAEL in the 104 weeks study was determined as 5% sucrose fatty acid esters in the diet, equivalent to 1970 mg/kg bw/day in males and 2440 mg/kg bw/day in females (Takeda and Flood, 2002; FDA, 2003a).

2.8. Human Studies

The available human studies with sucrose fatty acid esters are described by JECFA and EFSA reports. Additionally, these studies are also summarized in FDA GRAS notices. The findings from an unpublished human oral tolerance study are described in the JECFA and EFSA reports. In this double-blind, crossover trial, the laxative effects of sucrose fatty acid esters (S-1170⁵) were investigated in ten men and ten women, age 21-35 years. The subjects consumed twice daily for 5 days a serving of bread containing 0.75 g of sucrose fatty acid esters (mean daily dose 27 mg/kg bw in males and 29 mg/kg bw in females) or control bread. After a 6-day interval the treatment groups were reversed for the next 5 days treatment period. In addition to these time periods, subjects were monitored for 2 days prior to the treatment and for 2 days following the last treatment. During the course of the study, conditions such as hours of walking and sleeping, food and water consumption, smoking and intake of alcohol, caffeine and medications were closely controlled. Subjective symptoms and frequency and appearance of feces were recorded. Prior to the administration of the test substance and after the end of the treatment periods at day 7, blood pressure, pulse, breathing rate, body temperature, body weight and a standard set of hematological, clinical chemistry and urinalysis parameters were measured. All subjects underwent daily medical examinations. No treatment-related effect on the frequency of fecal excretion either in males or females was noted. In a few subjects, incidents of changes in fecal consistency ("muddy" or "watery") occurred, whereas "soft" feces lasting for 1 to 4 days was observed in several subjects regardless of whether they were consuming control bread or bread containing sucrose fatty acid esters. No treatment-related effects were noted at day 7 in blood pressure, pulse, breath rate, body temperature and body weight, or in the standard battery of hematological, clinical chemistry and urinalysis parameters (EFSA, 2003a).

⁵ S-1170 was a mixture consisting of 57% monoesters, 28% diesters, 10% triesters, and 1% tetra and higher esters, with a fatty acid composition containing about 70% stearic acid and 30% palmitic acid.

3. COMMON KNOWLEDGE ELEMENT

The available information from the regulatory approvals as well as from the scientific publications suggest that use of sucrose esters of fatty acids a variety of food applications is widely known and is recognized as safe among qualified experts around the world. A peer-reviewed scientific publication on 90-day and two-year rat feeding studies supports the safety of sucrose esters of fatty acids (Takeda and Flood, 2002). Additionally, the key data on metabolism of sucrose esters of fatty acids that are highly relevant to the safety assessment also are published in peer-reviewed journals (Noker et al., 1997; Takeda et al., 1984; Mattson et al., 1972). The FCC has published a monograph on sucrose fatty acid esters and identifies its functional use as emulsifier, stabilizer, and texturizer. Over the years, the JECFA has evaluated sucrose esters of fatty acids numerous times and has assigned a group AD1 of 30 mg/kg bw to sucrose esters of fatty acids and sucroglycerides. EFSA has also evaluated the safety of sucrose fatty acid esters for uses in food. The totality of available evidence supports a conclusion that sucrose fatty acid esters are GRAS as described in this assessment. The requirement that qualified experts agree on the safety of sucrose fatty acid esters is met in several ways including the peer reviewed publications and favorable conclusions of JECFA, FDA, and regulatory bodies around the world. In a FDA memorandum dated November 4, 1993 related to three Food Additive Petitions seeking to expand the permitted uses for sucrose esters under section 172.859, the agency revised the ADI for the lower sucrose esters and assigned an ADI of 25 mg/kg bw to sucrose esters, expressed as 1500 mg/person/day for an adult individual weighing 60 kg.

4. SUMMARY

Sisterna B.V. intends to market sucrose fatty acid ester products as ingredients for use in food and beverages. The products will be marketed under the trade name Sisterna Sucrose Esters and DK-ester. These products are proposed for use in foods and beverages for their use as emulsifiers [21 CFR 170.3(o)(8)], stabilizers [21 CFR 170.3(o)(20)], and texturizers [21 CFR 170.3(o)(32)]. The manufacturing of sucrose fatty acid esters involves inter-esterification of sucrose with methyl esters of fatty acids. Edible vegetable oils are used as sources of the fatty acids. The sucrose fatty acid esters are prepared in the presence of food-grade solvents (dimethyl sulfoxide) as described in 21 CFR 172.859 and the FCC. As compared to conventional purification methods where solvents are used, for Sisterna products, only water is used to remove byproducts and impurities. The degree of esterification is established by the ratio of fatty acid methyl ester to sucrose.

Currently, sucrose fatty acid esters are permitted for use in a variety of foods (Baked Goods and Baking Mixes; Beverages and Beverage Bases; Chewing Gum; Confections and Frostings; Dairy Product Analogs; Fats and Oils; Fish Products; Fresh Fruits and Vegetables; Frozen Dairy Desserts and Mixes; and Milk Products). Sisterna B.V. intends to use sucrose fatty acid esters at use levels ranging from 0.005 to 1.0% in the following food categories: breakfast cereals; fats and oils; fish products; grain products and pastas, gravies and sauces; meat products; other; poultry products, processed fruits and fruit juices; and processed vegetables and vegetable juices, and at use levels of 0.0003 to 2.9% (in final food) as a diluent in fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances. The intended uses of sucrose fatty acid esters in the above mentioned food categories, including the existing uses, is estimated to result at mean and 90th percentile cumulative intakes of 0.589 g/person (9.6 mg/kg bw/day) and 1.136

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g/person (19.1 mg/kg bw/day), respectively. On body weight basis, the intake of sucrose fatty acid esters was over 30 mg/kg bw/day in infants (35.2 mg/kg bw/day) and children (32.7 mg/kg bw/day). As discussed earlier, given the methods used in intake estimates, the estimated daily intakes may be an overestimate.

The safety of sucrose fatty acid esters is supported by the results of metabolism studies (*in vitro* and *in vivo*), short- and long-term toxicity in experimental animals, as well as toxicokinetic studies in animals and humans. Metabolic studies in rats, dogs and humans show that following oral ingestion sucrose fatty acid esters are extensively hydrolyzed in the gastrointestinal tract primarily into sucrose and fatty acids prior to absorption. Only small amounts of intact monoesters which escape hydrolysis are absorbed, and incompletely hydrolyzed sucrose esters are excreted in the feces. There was no evidence of tissue accumulation of the absorbed monoesters that were completely metabolized to carbon dioxide or integrated into other endogenous constituents.

The results of a subchronic feeding toxicity study in rats at a dose level of 5% sucrose fatty acid esters in the diet did not reveal any adverse effects. Similarly, in a 2-year chronic toxicity/carcinogenicity feeding study in male and female rats, the NOAEL was established as 5% sucrose fatty acid esters, equal to 1970 (~2000) mg/kg bw/day in males. The sucrose esters of fatty acids tested in this study was composed of sucrose esters of stearic and palmitic acids (70:30) with a high content of tetra- and higher esters. In a double-blind, cross-over human trial (10/sex) administration of the test substance administration of divided daily doses of sucrose fatty acid esters in bread of 1.5 g for 5 days (equal to 27 mg/kg in men and 29 mg/kg in women) produced no adverse reactions.

In a 1993 memorandum, in regards to Food Additive Petitions, FDA revised its ADI for the lower sucrose esters and assigned an ADI of 25 mg/kg bw to sucrose esters, expressed as 1500 mg/person/day for a 60 kg adult.

In 1997, JECFA noted that a safety factor of only 50, rather than 100, can be used to derive an ADI from chronic toxicity study of sucrose fatty acid esters. According to JECFA, a lower safety factor may be considered appropriate for sucrose esters of fatty acids as these compounds are hydrolyzed to normal dietary constituents following ingestion. Use of 50-fold safety factor would have yielded a higher ADI. However, there is a potential for sucrose esters to induce laxation at this high a dose (2.4 g/day for a 60-kg adult) and, hence, JECFA capped the ADI at 30 mg/kg bw, which corresponds to the highest dose and the no-effect-level in a human tolerance study.

Furthermore, EFSA has evaluated the safety of these food additives and established a group ADI of 40 mg/kg bw/day for sucrose esters of fatty acids and sucroglycerides. EFSA also noted that the estimated 95th percentile intake of sucrose fatty acid esters in children (42.8 mg/kg bw/day) exceeds by 7% the group ADI for sucrose esters of fatty acids and sucroglycerides. The estimated 90th percentile intake of sucrose fatty acid esters from the proposed uses by Sisterna B.V. as well as from the existing uses in infants (35.232.7 mg/kg bw/day) and children (32.7 mg/kg bw/day) is lower than the ADI established by EFSA.

The safety determination of sucrose fatty acid esters is based on the totality of available evidence, particularly chronic toxicity study in rats, including current existing uses, *in vitro* and *in vivo* metabolism studies, human observations and a variety of animal studies further corroborating its safety.

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On the basis of scientific procedures⁶ and common knowledge of exposure from existing approved uses, the consumption of sucrose fatty acid esters as added food ingredients are considered safe at levels up to 1.16 g/person/day (20.2 mg/kg bw/day). The intended uses are compatible with current regulations, *i.e.*, sucrose fatty acid esters will be used in breakfast cereals; fats and oils; fish products; grain products and pastas, gravies and sauces; meat products; other; poultry products, processed fruits and fruit juices; and processed vegetables and vegetable juices at use levels of 0.005 to 1.0% and as a diluent in fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances at use levels of 0.0003 to 2.9% (in final food). Sucrose fatty acid ester used in these applications is produced according to current good manufacturing practices (cGMP).

⁶ 21 CFR §170.3 Definitions. (h) Scientific procedures include those human, animal, analytical, and other scientific studies, whether published or unpublished, appropriate to establish the safety of a substance.

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5. CONCLUSION

Based on a critical evaluation of the publicly available data summarized above, the Expert Panel members whose signatures appear below, have individually and collectively concluded that sucrose fatty acid esters, meeting the specifications cited above, and when used as a food ingredient in selected food products (breakfast cereals; fats and oils; fish products; grain products and pastas, gravies and sauces; meat products; other; poultry products, processed fruits and fruit juices; and processed vegetables and vegetable juices) at use levels of 0.005 to 1.0% and as a diluent in fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances at use levels of 0.0003 to 2.9% (in final food)), when not otherwise precluded by a Standard of Identity as described in this monograph and resulting in the 90th percentile all users estimated intake of 1.136 g sucrose fatty acid esters/person/day (19.1 mg/kg bw/day) is Generally Recognized As Safe (GRAS).

It is also our opinion that other qualified and competent scientists reviewing the same publicly available toxicological and safety information would reach the same conclusion. Therefore, we have also concluded that sucrose fatty acid esters, when used as described, is GRAS, based on scientific procedures.

Signatures

(b) (6)

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April 7, 2014
Date

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April 4, 2014
Date

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April 10, 2014
Date

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7. APPENDIX I

REPORT ON:

ESTIMATED DAILY INTAKE OF SUCROSE FATTY ACID ESTERS BY THE U.S. POPULATION FROM PROPOSED FOOD-USES

(Attached separately)

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Estimated Daily Intake of Sucrose Fatty Acid Esters by the U.S. Population from Approved and Proposed Food-Uses

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Estimated Daily Intake of Sucrose Fatty Acid Esters by the U.S. Population from Approved and Proposed Food-Uses

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Estimated Daily Intake of Sucrose Fatty Acid Esters by the U.S. Population from Approved and Proposed Food-Uses

1.0 INTRODUCTION

Sucrose fatty acid esters are currently approved for use in the United States (U.S.) as emulsifiers in foods in the following categories: baked goods and baking mixes; beverages and beverage bases; chewing gum; confections and frostings; dairy product analogs; fats and oils; fish products; fresh fruits and vegetables; frozen dairy desserts and mixes; and milk products according to Title 21, Section §172.859 of the Code of Federal Regulations (CFR, 2013a) and GRAS notice GRN 248 (U.S. FDA, 2008). Furthermore, sucrose fatty acid esters also are approved for use as a foaming agent in alcoholic beverages according to the GRAS notice GRN 421 (U.S. FDA, 2012). Soni & Associates is proposing to use sucrose fatty acid esters in additional food-uses including breakfast cereals; fats and oils; fish products; grain products and pastas, gravies and sauces; meat products; other; poultry products, processed fruits and fruit juices; and processed vegetables and vegetable juices.

Estimates for the intake of sucrose fatty acid esters were based on the approved and proposed food-uses and use-levels in conjunction with food consumption data included in the US National Center for Health Statistics' (NCHS) National Health and Nutrition Examination Surveys (NHANES) (CDC, 2006, 2009, 2010; USDA, 2009, 2010). The data from the 2003-2004, 2005-2006, and 2007-2008 cycles of the NHANES survey were combined to provide a larger population from which to estimate sucrose fatty acid esters consumption. Calculations for the mean and 90th percentile all-person and all-user intakes were performed for each of the individual approved and proposed food-uses of sucrose fatty acid esters and the percentage of consumers were determined. Similar calculations were used to estimate the total intake of sucrose fatty acid esters resulting from all approved and proposed food-uses of sucrose fatty acid esters combined. In both cases, the per person and per kilogram body weight intakes were reported for the following population groups:

- infants, ages 0 to 2;
- children, ages 3 to 11;
- female teenagers, ages 12 to 19;
- male teenagers, ages 12 to 19;
- female adults, ages 20 and up;
- male adults, ages 20 and up; and
- total population (all age and gender groups combined).

2.0 FOOD CONSUMPTION SURVEY DATA

2.1 Survey Description

NHANES for the years 2003-2004, 2005-2006, and 2007-2008 are available for public use. NHANES are conducted as continuous, annual surveys, and are released in 2-year cycles. Each year about 7,000 people from 15 different locations across the U.S. are interviewed, and approximately 5,000 complete the health examination component of the survey. Any combination of consecutive years of data collection is recognized and used as a nationally representative sample of the U.S. population. It is well-established that the length of a dietary survey affects the estimated consumption of individual users and that short-term surveys, such as a 1-day dietary survey, may overestimate consumption compared to surveys conducted over longer time periods (Anderson, 1988). Because two 24-hour dietary recalls administered on 2 non-consecutive days are available from the NHANES 2003-2004, 2005-2006, 2007-2008 survey, these data were used to generate estimates for the current intake analysis.

NHANES 2003-2004, 2005-2006, 2007-2008 survey data were collected from individuals and households *via* 24-hour dietary recalls administered on 2 non-consecutive days (Day 1 and Day 2) throughout all 4 seasons of the year. Day 1 data were collected in-person, and Day 2 data were collected by telephone in the following 3 to 10 days, on different days of the week, to achieve the desired degree of statistical independence. The data were collected by first selecting Primary Sampling Units (PSUs), which were counties throughout the U.S., of which 15 PSUs are visited per year. Small counties were combined to attain a minimum population size. These PSUs were segmented and households were chosen within each segment. One or more participants within a household were interviewed. For NHANES 2003-2004, 12,761 individuals were selected for the sample, 10,122 were interviewed (79.3%), and 9,643 were sampled (75.6%). For NHANES 2005-2006, 12,862 individuals were selected for the sample, 10,348 were interviewed (80.4%), and 9,950 were sampled (77.4%). For NHANES 2007-2008, 12,943 individuals were selected for the sample, 10,149 were interviewed (78.4%), and 9,762 were sampled (75.4%).

In addition to collecting information on the types and quantities of foods being consumed, NHANES 2003-2004, 2005-2006, and 2007-2008 collected socio-economic, physiological and demographic information from individual participants in the survey, such as sex, age, height and weight, and other variables useful in characterizing consumption. The inclusion of this information allows for further assessment of food intake based on consumption by specific population groups of interest within the total population. Sample weights were incorporated with NHANES 2003-2004, 2005-2006, and 2007-2008 data to compensate for the potential under-representation of intakes from specific population groups as a result of sample variability due to survey design, differential non-response rates, or other factors, such as deficiencies in the sampling frame (CDC, 2006, 2009, 2010; USDA, 2009, 2010).

2.2 Statistical Methods

Statistical analysis and data management were conducted in Creme software (www.cremeglobal.com) (Creme, 2013). Creme Food 3.0 is a probabilistic modeling software tool that uses high-performance computing to allow accurate estimate of exposure to contaminants, food additives, flavorings, nutrients, food packaging migratory compounds, novel foods, pesticide residues, and microbial contaminants. The main input components are concentration (use level) data and food consumption data. Data sets are combined using the Creme Food 3.0 model to provide accurate and efficient exposure assessments.

For the deterministic assessment, consumption data from individual dietary records, detailing food items ingested by each survey participant, were collated by computer and used to generate estimates for the intake of sucrose fatty acid esters by the U.S. population using Creme software. Estimates for the daily intake of sucrose fatty acid esters represent projected 2-day averages for each individual from Day 1 and Day 2 of NHANES 2003-2004, 2005-2006, and 2007-2008 data; these average amounts comprised the distribution from which mean and percentile intake estimates were generated. Mean and percentile estimates were generated incorporating survey weights in order to provide representative intakes for the entire U.S. population. All-person intake refers to the estimated intake of sucrose fatty acid esters averaged over all individuals surveyed, regardless of whether they potentially consumed food products containing sucrose fatty acid esters, and therefore includes individuals with “zero” intakes (*i.e.* those who reported no intake of food products containing sucrose fatty acid esters during the 2 survey days). All-user intake refers to the estimated intake of sucrose fatty acid esters by those individuals who reported consuming food products containing sucrose fatty acid esters, hence the “all-user” designation. Individuals were considered ‘users’ if they consumed 1 or more food products containing sucrose fatty acid esters on either Day 1 or Day 2 of the survey.

Mean or percentile intake estimates based on small sample sizes or with high variability relative to the mean [assessed using the coefficient of variation (CV)] may be less statistically reliable than estimates based on adequate sample sizes or low variability relative to the mean (LSRO, 1995). Data presented herein for the estimated daily intake of sucrose fatty acid esters follow the guidelines proposed by the Human Nutrition Information Service/ National Center for Health Statistics Analytic Working Group for evaluating the reliability of statistical estimates adopted in the “Third Report on Nutrition Monitoring in the United States”, whereby an estimated mean may be unreliable if the CV is equal to or greater than 30% (LSRO, 1995). The CV is the ratio of the estimated standard error of the mean to the estimated mean, expressed as a percentage (LSRO, 1995). Therefore, for the estimated intakes of sucrose fatty acid esters presented herein, values were considered statistically unreliable if the CV was equal to or greater than 30% or if the sample included less than 30 respondents. These values were not considered

when assessing the relative contribution of specific food-uses to total sucrose fatty acid esters consumption and are marked with an asterisk in Appendices A and B.

3.0 FOOD USAGE DATA

The individual approved and proposed food-uses and use-levels for sucrose fatty acid esters employed in the current intake analysis are summarized in Table 3-1. Food codes representative of each approved and proposed food-use were chosen from the NHANES 2007-2008 (CDC, 2006, 2009, 2010; USDA, 2009, 2010). Food codes were grouped in food-use categories according to Title 21, Section §170.3 of the Code of Federal Regulations (CFR, 2013b). Product-specific adjustment factors were developed based on data provided in the standard recipe file for the Continuing Survey of Food Intakes by Individuals (CSFII) 1994-1996, 1998 survey (USDA, 2000). All food codes included in the current intake assessment are listed in Appendix C. A given food code may not be associated with both surveys; as with each new survey the food code list has been updated to reflect the availability of new foods and the discontinuation of certain obsolete codes.

Table 3-1 Summary of the Individual Approved and Proposed Food Uses and Use Levels for Sucrose Fatty Acid Esters in the U.S.				
Food Category	Food-Uses	Sucrose Fatty Acid Esters Use Level	Flour Content	Use Level (%)
Approved Food Uses				
Alcoholic Beverages	Mixed Drinks, Cocktails, and Dessert Drinks	-	-	0.2
Baked Goods and Baking Mixes	Biscuit Mixes	-	-	1.0
	Cakes	-	-	0.5
	White Breads	1.0% (by wt. of flour)	1 to 55%	0.01 to 0.55
	White Rolls	1.0% (by wt. of flour)	1 to 48%	0.01 to 0.48
Beverages and Beverage Bases	Fruit-Flavored Beverages	-	-	0.005
Chewing Gum	Chewing Gum	-	-	0.5
Confections and Frostings	Frostings	-	-	0.5
Dairy Product Analogs	Coffee Whiteners	-	-	0.5
Fats and Oils	Margarine	-	-	0.5
Fish Products	Surimi-Based Fish Products	-	-	1.0
Fresh Fruits and Vegetables	Raw Fruits	-	-	0.0056 to 0.0083
Frozen Dairy Desserts and Mixes	Ice Cream, Ice Milk, and Sherbet	-	-	0.3
Milk Products	Dairy-Based Toppings	-	-	2.0

Table 3-1 Summary of the Individual Approved and Proposed Food Uses and Use Levels for Sucrose Fatty Acid Esters in the U.S.

Food Category	Food-Uses	Sucrose Fatty Acid Esters Use Level	Flour Content	Use Level (%)
Proposed Food Uses				
Breakfast Cereals	RTE Breakfast Cereals	-	-	0.2
Fats and Oils	Fat Emulsions for Bakery Wares ^a	-	-	1.0
	Mayonnaise and Mayonnaise-Type Dressings	-	-	0.5
	Salad Dressings	-	-	0.5
Fish Products	Battered Fried Fish Products	-	-	0.3
Grain Products and Pastas	Cereal Bars	-	-	0.2
Gravies and Sauces	Sauces and Cooking Sauces	-	-	0.5
Meat Products	Battered Fried Meat Products	-	-	0.3
Other	Fat-Soluble Colors ^b	-	-	0.0003 to 2.9 (in final food)
	Fat-Soluble Flavors ^c	-	-	
	Fat-Soluble Nutraceutical Substances ^c	-	-	
Poultry Products	Battered Fried Poultry Products	-	-	0.3
Processed Fruits and Fruit Juices	Processed Fruit Filling Preparations ^d			0.5
Processed Vegetables and Vegetable Juices	Battered Fried Vegetable Products	-	-	0.3
	Potato Stick Type Products	-	-	0.5

RTE = ready-to-eat

^a No food codes for these food uses were available in the NHANES 2003-2008 databases; however, food codes for wafers containing fillings were used as surrogate food codes.

^b No food codes were identified for fat-soluble colors in the NHANES 2003-2008 databases; however, food uses and use levels in which β -carotene, lycopene, carmine, turmeric, and turmeric oleoresin are permitted were selected to approximate the consumption of sucrose esters from its proposed use in fat-soluble colors.

^c No food codes were identified for fat-soluble flavors and fat-soluble nutraceutical substances in the NHANES 2003-2008 databases; however, the use levels for fat-soluble colors was assumed to represent the exposure to all 3 categories (*i.e.*, fat-soluble colors, fat-soluble flavors, and fat-soluble nutraceutical substances).

^d No food codes for these food uses were available in the NHANES 2003-2008 databases; however, food codes for yogurts and pastries containing processed fruit-filling preparations were used as surrogate food codes.

4.0 FOOD SURVEY RESULTS

Estimates for the total daily intakes of sucrose fatty acid esters from approved and proposed food-uses are provided in Tables 4.1-1 and 4.1-2. Estimates for the daily intake of sucrose fatty acid esters from individual approved and proposed food-uses in the U.S. are summarized in Tables A-1 to A-7 and B-1 to B-7 of Appendices A and B, respectively. Tables A-1 to A-7 provide estimates for the daily intake of sucrose fatty acid esters per person (mg/day), whereas

Tables B-1 to B-7 provide estimates for the daily intake of sucrose fatty acid esters on a per kilogram body weight basis (mg/kg body weight/day).

4.1 Estimated Daily Intake of Sucrose Fatty Acid Esters from Approved and Proposed Food-Uses in the U.S.

Table 4.1-1 summarizes the estimated total intake of sucrose fatty acid esters (mg/person/day) from approved and proposed food-uses in the U.S. population group. Table 4.1-2 presents this data on a per kilogram body weight basis (mg/kg body weight/day). The percentage of users was high among all age groups evaluated in the current intake assessment; greater than 81.2% of the population groups consisted of users of those food products in which sucrose fatty acid esters is currently approved for use and proposed for use (Table 4.1-1). Female and male teenagers, and male adults had the greatest percentage of users at 100.0%. Large user percentages within a population group typically lead to similar results for the all-person and all-user consumption estimates. Consequently, only the all-user intake results will be discussed in detail.

In the total U.S. population, the estimated mean and 90th percentile intake of sucrose fatty acid esters in the total U.S. population were determined to be 589 and 1,136 mg/person/day, respectively (corresponding to 9.6 and 19.1 mg/kg body weight/day, respectively). Of the individual population groups, male adults were determined to have the greatest mean and 90th percentile all-user intakes of sucrose fatty acid esters on an absolute basis, at 735 and 1,358 mg/person/day, respectively, while infants had the lowest mean and 90th percentile all-user intakes of 193 and 428 mg/person/day, respectively (Table 4.1-1).

Table 4.1-1 Summary of the Estimated Daily Intake of Sucrose Fatty Acid Esters from Approved and Proposed New Food-Uses in the U.S. by Population Group (2003-2008 NHANES Data)

Population Group	Age Group (Years)	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	% Users	n	Mean	90 th Percentile
Infants	0 to 2	157	386	81.2	2,036	193	428
Children	3 to 11	462	846	99.9	4,075	463	847
Female Teenagers	12 to 19	502	938	100.0	2,479	502	938
Male Teenagers	12 to 19	664	1,204	100.0	2,449	664	1,204
Female Adults	20 and up	536	1,028	99.8	6,745	536	1,029
Male Adults	20 and up	735	1,358	100.0	6,112	735	1,358
Total Population	All Ages	583	1,132	99.1	23,896	589	1,136

On a body weight basis, children and infants were identified as having the highest mean and 90th percentile all-user intakes, respectively, among the individual population groups

(corresponding to 17.4 and 35.2 mg/kg body weight/day, respectively). Female adults were identified as having the lowest mean and 90th percentile all-user intakes of 7.5 and 14.6 mg/kg body weight/day, respectively (Table 4.1-2).

Table 4.1-2 Summary of the Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Approved and Proposed Food-Uses in the U.S. by Population Group (2003-2008 NHANES Data)							
Population Group	Age Group (Years)	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Infants	0 to 2	12.8	32.1	81.2	2,036	15.7	35.2
Children	3 to 11	17.4	32.7	99.9	4,075	17.4	32.7
Female Teenagers	12 to 19	8.6	16.8	100.0	2,479	8.6	16.8
Male Teenagers	12 to 19	10.3	20.6	100.0	2,449	10.3	20.6
Female Adults	20 and up	7.5	14.5	99.8	6,745	7.5	14.6
Male Adults	20 and up	8.6	16.2	100.0	6,112	8.6	16.2
Total Population	All Ages	9.5	19.0	99.1	23,896	9.6	19.1

4.2 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses in the U.S.

Estimates for the mean and 90th percentile daily intakes of sucrose fatty acid esters from each individual food category are summarized in Tables A-1 to A-7 and B-1 to B-7 on a mg/day and mg/kg body weight/day basis, respectively. The total U.S. population was identified as being significant consumers of margarine (59.0 to 77.7% users) and fat-soluble colors, flavors, and nutraceutical substances (77.7 to 99.5% users).

In terms of contribution to total mean intake of sucrose fatty acid esters, white rolls (contributed 7.8 to 17.5% to total mean intakes) and fat-soluble colors, flavors, and nutraceutical substances (contributed 16.1 to 21.7% to total mean intakes) were the 2 main sources of intake across all population groups on both an absolute and on a mg/kg body weight basis. Chewing gum and fat emulsions for bakery wares all individually contributed ≤0.3% to total mean sucrose fatty acid esters intakes across all population groups (see Tables A-1 to A-7 and/or B-1 to B-7 for further details). It should be noted that there were less than 30 users identified to consume surimi-based fish products among the total U.S. population and therefore, the intake results from surimi-based fish products were considered to be statistically unreliable across all population groups.

5.0 CONCLUSIONS

Consumption data and information pertaining to the individual approved and proposed food-uses of sucrose fatty acid esters were used to estimate the all-person and all-user intakes of sucrose fatty acid esters for specific demographic groups and for the total U.S. population. This type of intake methodology is generally considered to be 'worst case' as a result of several conservative assumptions made in the consumption estimates. For example, it is often assumed that all food products within a food category contain the ingredient at the maximum specified level of use. In addition, it is well-established that the length of a dietary survey affects the estimated consumption of individual users. Short-term surveys, such as the typical 2- or 3-day dietary surveys, may overestimate the consumption of food products that are consumed relatively infrequently.

In summary, on an all-user basis, the estimated mean and 90th percentile intake of sucrose fatty acid esters in the total U.S. population were determined to be 589 and 1,136 mg/day, respectively (corresponding to 9.6 and 19.1 mg/kg body weight/day, respectively). On an individual population basis, the highest mean and 90th percentile intakes of sucrose fatty acid esters by the U.S. population from approved and proposed food-uses in the U.S., as observed in male adults were estimated to be 735 mg/person/day (8.6 mg/kg body weight/day) and 1,358 mg/person/day (16.2 mg/kg body weight/day), respectively. Infants had the lowest mean and 90th percentile all-user intakes of 193 mg/person/day (15.7 mg/kg body weight/day) and 428 mg/person/day (35.2 mg/kg body weight/day), respectively.

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APPENDIX A

Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Different Population Groups Within the U.S. (NHANES DATA 2003-2004, 2005-2006, 2007-2008)

Table A-1 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Infants Aged 0 to 2 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	157	386	81.2	2,036	193	428
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	<0.1	<1*	na	0.1	4	1*	1*
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.7	7	na	5.0	105	149	350
Cakes	3.7	6	na	4.2	96	139	302
White Breads	17.2	27	107	27.4	607	99	204
White Rolls	7.8	12	51	17.2	357	71	139
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	1.7	3	9	25.8	688	10	19
<u>Chewing Gum</u>							
Chewing Gum	0.1	<1*	na	1.3	27	9*	14*
<u>Confections and Frostings</u>							
Frostings	0.2	<1	na	2.1	47	18	52
<u>Dairy Product Analogs</u>							
Coffee Whiteners	<0.1	<1*	na	0.1	6	4*	8*
<u>Fats and Oils</u>							
Margarine	7.3	11	33	59.0	1,460	19	42
<u>Fish Products</u>							
Surimi-Based Fish Products	0	na	na	0	0	na	na
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.8	1	4	26.7	664	5	9
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	9.3	15	59	17.1	386	85	177
<u>Milk Products</u>							
Dairy-Based Toppings	0.1	<1*	na	0.4	8	54*	98*
Proposed Food-Uses							
<u>Breakfast Cereals</u>							
RTE Breakfast Cereals	9.3	15	45	49.7	1,130	29	56
<u>Fats and Oils</u>							
Fat Emulsions for Bakery Wares	0.2	<1	na	3.8	89	8	19
Mayonnaise and Mayonnaise-Type Dressings	1.2	2	5	11.9	317	16	35

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Table A-1 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Infants Aged 0 to 2 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Salad Dressings	0.5	1	na	3.1	60	27	74
<u>Fish Products</u>							
Battered Fried Fish Products	0.6	1	na	1.3	31	72	126
<u>Grain Products and Pastas</u>							
Cereal Bars	1.4	2	na	5.7	87	39	74
<u>Gravies and Sauces</u>							
Sauces and Cooking Sauces	6.5	10	21	16.1	345	64	171
<u>Meat Products</u>							
Battered Fried Meat Products	0.1	<1*	na	0.1	5	107*	127*
<u>Other</u>							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	16.1	25	69	77.7	1,911	32	84
<u>Poultry Products</u>							
Battered Fried Poultry Products	3.2	5	na	4.9	144	101	213
<u>Processed Fruits and Fruit Juices</u>							
Processed Fruit Filling Preparations	6.0	9	43	17.4	362	54	98
<u>Processed Vegetables and Vegetable Juices</u>							
Battered Fried Vegetable Products	0.1	<1*	na	0.5	16	36*	72*
Potato Stick Type Products	1.8	3	na	2.2	39	134	299

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table A-2 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Children Aged 3 to 12 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	462	846	99.9	4,075	463	847
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	<0.1	<1*	na	0.1	9	1*	1*
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	3.9	18	na	8.0	306	224	380
Cakes	3.9	18	30	10.6	410	170	356
White Breads	15.3	71	231	41.1	1,710	172	317
White Rolls	12.6	58	176	46.0	1,844	126	212
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	1.2	6	17	49.2	2,255	12	24
<u>Chewing Gum</u>							
Chewing Gum	0.2	1	na	7.9	302	14	28
<u>Confections and Frostings</u>							
Frostings	0.4	2	na	8.5	230	22	43
<u>Dairy Product Analogs</u>							
Coffee Whiteners	0.1	<1	na	0.7	33	40	90
<u>Fats and Oils</u>							
Margarine	4.7	22	57	73.7	2,992	29	64
<u>Fish Products</u>							
Surimi-Based Fish Products	0	na	na	0	0	na	na
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.4	2	7	31.0	1,306	6	13
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	14.3	66	227	37.0	1,347	179	350
<u>Milk Products</u>							
Dairy-Based Toppings	1.3	6	na	2.3	78	269	600

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Table A-2 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Children Aged 3 to 12 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	8.4	39	97	65.2	2,708	59	111
Fats and Oils							
Fat Emulsions for Bakery Wares	0.1	<1	na	4.1	140	8	18
Mayonnaise and Mayonnaise-Type Dressings	1.8	8	26	26.2	1,128	32	64
Salad Dressings	0.9	4	na	7.0	246	56	147
Fish Products							
Battered Fried Fish Products	0.4	2	na	1.4	81	137	303
Grain Products and Pastas							
Cereal Bars	0.7	3	na	8.3	242	40	72
Gravies and Sauces							
Sauces and Cooking Sauces	5.0	23	71	24.2	946	96	252
Meat Products							
Battered Fried Meat Products	0.1	1*	na	0.4	21	142*	246*
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	16.6	77	174	99.5	4,052	77	175
Poultry Products							
Battered Fried Poultry Products	4.2	20	51	10.6	558	184	356
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	1.9	9	43	14.0	525	62	106
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.5	2	na	2.3	74	95	188
Potato Stick Type Products	1.0	5	na	3.1	105	151	240

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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Table A-3 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Female Teenagers Aged 12 to 19 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	502	938	100.0	2,479	502	938
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	0.7	4	na	1.9	53	198	368
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	3.8	19	na	6.7	162	282	610
Cakes	3.4	17	na	7.2	177	238	408
White Breads	13.1	66	215	34.3	846	192	412
White Rolls	13.7	69	206	49.5	1,189	139	240
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	1.0	5	17	33.3	1,052	15	31
<u>Chewing Gum</u>							
Chewing Gum	0.3	1	na	7.9	235	18	42
<u>Confections and Frostings</u>							
Frostings	0.2	1	na	4.7	92	19	40
<u>Dairy Product Analogs</u>							
Coffee Whiteners	1.0	5	na	4.3	85	112	238
<u>Fats and Oils</u>							
Margarine	3.5	17	47	62.4	1,485	28	59
<u>Fish Products</u>							
Surimi-Based Fish Products	0	na	na	0	0	na	na
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.3	2	7	22.0	529	8	15
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	11.3	57	199	29.1	650	194	409
<u>Milk Products</u>							
Dairy-Based Toppings	1.5	8	na	2.5	46	301	600

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Table A-3 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Female Teenagers Aged 12 to 19 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	5.9	30	88	42.8	1,029	69	115
Fats and Oils							
Fat Emulsions for Bakery Wares	<0.1	<1	na	1.5	31	10	27
Mayonnaise and Mayonnaise-Type Dressings	2.5	13	45	31.4	782	40	81
Salad Dressings	2.2	11	29	11.7	232	95	196
Fish Products							
Battered Fried Fish Products	0.7	3	na	2.4	64	136	258
Grain Products and Pastas							
Cereal Bars	0.8	4	na	10.0	161	42	70
Gravies and Sauces							
Sauces and Cooking Sauces	5.5	28	78	25.8	661	107	247
Meat Products							
Battered Fried Meat Products	0.3	1*	na	0.5	19	238*	378*
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	17.9	90	199	99.2	2,456	91	201
Poultry Products							
Battered Fried Poultry Products	7.3	37	165	14.0	406	261	440
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	1.1	5	na	7.6	170	70	128
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.4	2	na	2.0	48	89	164
Potato Stick Type Products	1.6	8	na	3.1	50	264	489

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table A-4 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Male Teenagers Aged 12 to 19 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	664	1,204	100.0	2,449	664	1,204
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	0.9	6	na	2.5	53	230	735
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.2	28	na	7.3	191	382	767
Cakes	4.0	27	na	8.9	185	296	716
White Breads	12.1	80	286	37.9	902	212	429
White Rolls	17.5	116	310	57.7	1,384	202	395
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	0.9	6	22	31.7	994	18	38
<u>Chewing Gum</u>							
Chewing Gum	0.2	1	na	6.6	172	21	49
<u>Confections and Frostings</u>							
Frostings	0.3	2	na	4.6	93	38	80
<u>Dairy Product Analogs</u>							
Coffee Whiteners	0.3	2	na	3.6	74	56	147
<u>Fats and Oils</u>							
Margarine	2.5	17	48	55.1	1,348	30	64
<u>Fish Products</u>							
Surimi-Based Fish Products	0	na	na	0	0	na	na
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.3	2	8	22.8	563	8	15
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	9.9	66	262	25.0	556	263	440
<u>Milk Products</u>							
Dairy-Based Toppings	0.7	5	na	1.7	32	262	494

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Table A-4 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Male Teenagers Aged 12 to 19 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	6.2	41	122	44.3	1,101	93	175
Fats and Oils							
Fat Emulsions for Bakery Wares	<0.1	<1*	na	0.6	26	8*	22*
Mayonnaise and Mayonnaise-Type Dressings	2.3	15	57	27.4	747	55	115
Salad Dressings	1.4	9	na	8.0	173	116	294
Fish Products							
Battered Fried Fish Products	0.5	4	na	2.0	46	178	368
Grain Products and Pastas							
Cereal Bars	0.5	3	na	5.8	121	53	89
Gravies and Sauces							
Sauces and Cooking Sauces	6.5	43	135	30.9	665	139	310
Meat Products							
Battered Fried Meat Products	0.5	3*	na	0.7	15	495*	814*
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	18.8	125	286	99.0	2,431	126	287
Poultry Products							
Battered Fried Poultry Products	7.6	50	210	15.3	471	328	640
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	0.7	4	na	5.2	116	84	151
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.4	2	na	2.4	55	102	188
Potato Stick Type Products	1.0	7	na	2.2	39	314	554

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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Table A-5 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Female Adults Aged 20 Years and Over Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	536	1,028	99.8	6,745	536	1,029
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	4.0	21	na	7.8	466	273	660
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.5	24	na	9.1	583	263	455
Cakes	5.2	28	72	11.9	792	235	507
White Breads	9.3	50	155	30.5	2,111	163	286
White Rolls	9.9	53	170	38.7	2,452	137	253
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	0.5	3	9	19.5	1,551	13	26
<u>Chewing Gum</u>							
Chewing Gum	0.2	1	na	4.5	271	23	42
<u>Confections and Frostings</u>							
Frostings	0.2	1	na	3.8	223	25	30
<u>Dairy Product Analogs</u>							
Coffee Whiteners	3.5	19	51	22.8	1,534	81	204
<u>Fats and Oils</u>							
Margarine	4.9	26	66	77.7	5,340	34	73
<u>Fish Products</u>							
Surimi-Based Fish Products	<0.1	<1*	na	0.1	1	46*	46*
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.4	2	8	26.7	1,936	7	14
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	9.1	49	197	25.9	1,618	189	377
<u>Milk Products</u>							
Dairy-Based Toppings	1.6	8	na	2.9	170	289	595

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Table A-5 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Female Adults Aged 20 Years and Over Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	4.0	21	74	32.5	2,228	65	122
Fats and Oils							
Fat Emulsions for Bakery Wares	0.1	<1	na	2.2	144	13	16
Mayonnaise and Mayonnaise-Type Dressings	3.3	18	59	40.6	2,666	43	89
Salad Dressings	4.2	23	76	25.8	1,478	88	182
Fish Products							
Battered Fried Fish Products	1.1	6	na	3.1	236	200	445
Grain Products and Pastas							
Cereal Bars	0.8	4	na	7.9	428	54	97
Gravies and Sauces							
Sauces and Cooking Sauces	6.4	34	106	29.3	1,848	118	298
Meat Products							
Battered Fried Meat Products	0.2	1	na	0.6	40	230	334
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	19.3	103	227	98.3	6,626	105	230
Poultry Products							
Battered Fried Poultry Products	5.1	27	82	11.3	826	242	447
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	1.4	8	11	10.3	693	74	128
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.6	3	na	3.0	184	105	201
Potato Stick Type Products	0.3	1	na	0.9	62	154	240

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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Table A-6 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Male Adults Aged 20 Years and Over Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	735	1,358	100.0	6,112	735	1,358
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	4.0	29	42	11.3	632	260	528
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.0	30	na	8.4	539	355	634
Cakes	4.6	34	73	10.7	660	315	657
White Breads	10.6	78	276	33.4	2,116	234	451
White Rolls	11.9	88	255	47.3	2,666	186	362
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	0.5	3	12	19.0	1,359	18	40
<u>Chewing Gum</u>							
Chewing Gum	0.1	1	na	3.2	187	20	42
<u>Confections and Frostings</u>							
Frostings	0.1	1	na	4.1	202	21	36
<u>Dairy Product Analogs</u>							
Coffee Whiteners	2.1	15	38	17.5	1,163	86	188
<u>Fats and Oils</u>							
Margarine	4.2	31	77	74.7	4,631	41	90
<u>Fish Products</u>							
Surimi-Based Fish Products	<0.1	<1*	na	0.1	3	51*	65*
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.3	2	8	23.1	1,510	9	17
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	8.2	60	241	24.8	1,450	244	448
<u>Milk Products</u>							
Dairy-Based Toppings	0.8	6	na	1.9	108	301	597
Proposed Food-Uses							
<u>Breakfast Cereals</u>							
RTE Breakfast Cereals	3.7	27	100	30.6	1,809	88	170
<u>Fats and Oils</u>							
Fat Emulsions for Bakery Wares	<0.1	<1	na	1.3	81	9	18

Table A-6 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Male Adults Aged 20 Years and Over Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Mayonnaise and Mayonnaise-Type Dressings	3.3	24	74	41.5	2,409	59	125
Salad Dressings	3.2	24	78	21.8	1,108	109	227
<u>Fish Products</u>							
Battered Fried Fish Products	1.5	11	na	4.4	246	251	464
<u>Grain Products and Pastas</u>							
Cereal Bars	0.6	5	na	7.7	298	59	121
<u>Gravies and Sauces</u>							
Sauces and Cooking Sauces	6.5	48	149	31.3	1,738	153	359
<u>Meat Products</u>							
Battered Fried Meat Products	0.3	3	na	1.0	64	261	402
<u>Other</u>							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	21.7	160	364	99.1	6,027	161	368
<u>Poultry Products</u>							
Battered Fried Poultry Products	5.9	43	198	14.1	929	304	529
<u>Processed Fruits and Fruit Juices</u>							
Processed Fruit Filling Preparations	0.7	5	na	7.2	378	74	146
<u>Processed Vegetables and Vegetable Juices</u>							
Battered Fried Vegetable Products	0.6	4	na	3.5	171	125	222
Potato Stick Type Products	0.5	4	na	1.3	65	280	420

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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Table A-7 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by the Total US Population (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	583	1,132	99.1	23,896	589	1,136
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	3.2	19	na	7.1	1,217	264	592
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.2	24	na	8.3	1,886	294	510
Cakes	4.6	27	40	10.6	2,320	256	544
White Breads	10.9	64	218	33.3	8,292	191	363
White Rolls	11.7	68	206	43.3	9,892	158	310
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	0.6	4	13	24.7	7,899	15	31
<u>Chewing Gum</u>							
Chewing Gum	0.2	1	na	4.7	1,194	19	40
<u>Confections and Frostings</u>							
Frostings	0.2	1	na	4.5	887	23	36
<u>Dairy Product Analogs</u>							
Coffee Whiteners	2.2	13	29	15.2	2,895	83	197
<u>Fats and Oils</u>							
Margarine	4.4	26	65	73.2	17,256	35	76
<u>Fish Products</u>							
Surimi-Based Fish Products	<0.1	<1*	na	<0.1	4	48*	65*
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.3	2	8	25.5	6,508	8	15
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	9.4	55	200	26.6	6,007	206	399
<u>Milk Products</u>							
Dairy-Based Toppings	1.1	7	na	2.3	442	288	600
Proposed Food-Uses							
<u>Breakfast Cereals</u>							
RTE Breakfast Cereals	4.6	27	89	37.8	10,005	70	134
<u>Fats and Oils</u>							
Fat Emulsions for Bakery Wares	<0.1	<1	na	2.1	511	10	18

Table A-7 Estimated Daily Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by the Total US Population (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/day)		All-Users Consumption (mg/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Mayonnaise and Mayonnaise-Type Dressings	3.0	18	59	36.6	8,049	48	101
Salad Dressings	3.1	18	74	19.3	3,297	95	201
<u>Fish Products</u>							
Battered Fried Fish Products	1.2	7	na	3.1	704	215	445
<u>Grain Products and Pastas</u>							
Cereal Bars	0.7	4	na	7.8	1,337	53	94
<u>Gravies and Sauces</u>							
Sauces and Cooking Sauces	6.3	37	110	28.7	6,203	128	304
<u>Meat Products</u>							
Battered Fried Meat Products	0.3	2	na	0.7	164	253	365
<u>Other</u>							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	19.9	116	268	97.9	23,503	119	273
<u>Poultry Products</u>							
Battered Fried Poultry Products	5.6	33	114	12.3	3,334	265	474
<u>Processed Fruits and Fruit Juices</u>							
Processed Fruit Filling Preparations	1.2	7	na	9.5	2,244	71	128
<u>Processed Vegetables and Vegetable Juices</u>							
Battered Fried Vegetable Products	0.5	3	na	2.9	548	111	192
Potato Stick Type Products	0.6	3	na	1.6	360	212	399

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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APPENDIX B

**Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters
from Individual Proposed Food-Uses by Different Population Groups Within the
U.S. (NHANES DATA 2003-2004, 2005-2006, 2007-2008)**

Table B-1 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Infants Aged 0 to 2 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	12.8	32.1	81.2	2,036	15.7	35.2
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	<0.1	<0.1*	na	0.1	4	0.1*	0.1*
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.7	0.6	na	5.0	105	12.8	25.2
Cakes	3.7	0.4	na	4.2	96	10.8	20.0
White Breads	17.2	2.2	8.2	27.4	607	8.0	16.8
White Rolls	7.8	1.0	3.5	17.2	357	5.7	11.1
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	1.7	0.2	0.7	25.8	688	0.8	1.6
<u>Chewing Gum</u>							
Chewing Gum	0.1	<0.1*	na	1.3	27	0.6*	1.3*
<u>Confections and Frostings</u>							
Frostings	0.2	<0.1	na	2.1	47	1.5	4.6
<u>Dairy Product Analogs</u>							
Coffee Whiteners	<0.1	<0.1*	na	0.1	6	0.3*	0.7*
<u>Fats and Oils</u>							
Margarine	7.3	1.0	2.8	59.0	1,460	1.6	3.7
<u>Fish Products</u>							
Surimi-Based Fish Products	0	na	na	0	0	na	na
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.8	0.1	0.4	26.7	664	0.4	0.8
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	9.3	1.2	4.7	17.1	386	7.0	14.4
<u>Milk Products</u>							
Dairy-Based Toppings	0.1	<0.1*	na	0.4	8	3.9*	7.4*
Proposed Food-Uses							
<u>Breakfast Cereals</u>							
RTE Breakfast Cereals	9.3	1.2	3.5	49.7	1,130	2.4	4.7
<u>Fats and Oils</u>							
Fat Emulsions for Bakery Wares	0.2	<0.1	na	3.8	89	0.7	1.5

Table B-1 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Infants Aged 0 to 2 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Mayonnaise and Mayonnaise-Type Dressings	1.2	0.1	0.4	11.9	317	1.2	2.5
Salad Dressings	0.5	0.1	na	3.1	60	2.1	5.2
<u>Fish Products</u>							
Battered Fried Fish Products	0.6	0.1	na	1.3	31	5.5	8.6
<u>Grain Products and Pastas</u>							
Cereal Bars	1.4	0.2	na	5.7	87	3.1	5.0
<u>Gravies and Sauces</u>							
Sauces and Cooking Sauces	6.5	0.9	1.7	16.1	345	5.5	16.0
<u>Meat Products</u>							
Battered Fried Meat Products	0.1	<0.1*	na	0.1	5	9.6*	11.9*
<u>Other</u>							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	16.1	2.0	5.6	77.7	1,911	2.6	6.4
<u>Poultry Products</u>							
Battered Fried Poultry Products	3.2	0.4	na	4.9	144	7.9	15.7
<u>Processed Fruits and Fruit Juices</u>							
Processed Fruit Filling Preparations	6.0	0.8	3.4	17.4	362	4.6	8.4
<u>Processed Vegetables and Vegetable Juices</u>							
Battered Fried Vegetable Products	0.1	<0.1*	na	0.5	16	2.9*	5.5*
Potato Stick Type Products	1.8	0.2	na	2.2	39	9.9	19.6

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table B-2 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Children Aged 3 to 12 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	17.4	32.7	99.9	4,075	17.4	32.7
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	<0.1	<0.1*	na	0.1	9	<0.1*	<0.1*
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	3.9	0.7	na	8.0	306	8.6	16.3
Cakes	3.9	0.7	1.3	10.6	410	6.3	11.9
White Breads	15.3	2.7	9.0	41.1	1,710	6.6	12.8
White Rolls	12.6	2.1	6.3	46.0	1,844	4.5	8.4
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	1.2	0.2	0.6	49.2	2,255	0.5	0.9
<u>Chewing Gum</u>							
Chewing Gum	0.2	<0.1	na	7.9	302	0.5	1.0
<u>Confections and Frostings</u>							
Frostings	0.4	0.1	na	8.5	230	0.9	1.6
<u>Dairy Product Analogs</u>							
Coffee Whiteners	0.1	<0.1	na	0.7	33	1.2	3.8
<u>Fats and Oils</u>							
Margarine	4.7	0.8	2.2	73.7	2,992	1.1	2.6
<u>Fish Products</u>							
Surimi-Based Fish Products	0	na	na	0	0	na	na
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.4	0.1	0.3	31.0	1,306	0.3	0.5
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	14.3	2.5	8.4	37.0	1,347	6.6	13.1
<u>Milk Products</u>							
Dairy-Based Toppings	1.3	0.2	na	2.3	78	8.9	19.4

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Table B-2 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Children Aged 3 to 12 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	8.4	1.5	3.7	65.2	2,708	2.3	4.3
Fats and Oils							
Fat Emulsions for Bakery Wares	0.1	<0.1	na	4.1	140	0.4	1.0
Mayonnaise and Mayonnaise-Type Dressings	1.8	0.3	1.0	26.2	1,128	1.1	2.3
Salad Dressings	0.9	0.1	na	7.0	246	2.1	4.9
Fish Products							
Battered Fried Fish Products	0.4	0.1	na	1.4	81	4.8	11.1
Grain Products and Pastas							
Cereal Bars	0.7	0.1	na	8.3	242	1.6	3.0
Gravies and Sauces							
Sauces and Cooking Sauces	5.0	0.9	2.3	24.2	946	3.5	9.8
Meat Products							
Battered Fried Meat Products	0.1	<0.1*	na	0.4	21	6.2*	9.0*
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	16.6	2.9	6.5	99.5	4,052	2.9	6.5
Poultry Products							
Battered Fried Poultry Products	4.2	0.7	1.7	10.6	558	6.7	12.8
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	1.9	0.4	1.4	14.0	525	2.7	5.1
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.5	0.1	na	2.3	74	3.4	5.6
Potato Stick Type Products	1.0	0.2	na	3.1	105	5.9	11.6

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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Table B-3 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Female Teenagers Aged 12 to 19 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	8.6	16.8	100.0	2,479	8.6	16.8
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	0.7	0.1	na	1.9	53	3.1	6.6
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	3.8	0.3	na	6.7	162	4.6	9.2
Cakes	3.4	0.3	na	7.2	177	4.0	7.7
White Breads	13.1	1.1	4.0	34.3	846	3.3	6.7
White Rolls	13.7	1.2	3.3	49.5	1,189	2.4	4.2
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	1.0	0.1	0.3	33.3	1,052	0.2	0.5
<u>Chewing Gum</u>							
Chewing Gum	0.3	<0.1	na	7.9	235	0.3	0.8
<u>Confections and Frostings</u>							
Frostings	0.2	<0.1	na	4.7	92	0.3	0.5
<u>Dairy Product Analogs</u>							
Coffee Whiteners	1.0	0.1	na	4.3	85	2.0	4.0
<u>Fats and Oils</u>							
Margarine	3.5	0.3	0.8	62.4	1,485	0.5	1.1
<u>Fish Products</u>							
Surimi-Based Fish Products	0	na	na	0	0	na	na
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.3	<0.1	0.1	22.0	529	0.1	0.2
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	11.3	1.0	3.6	29.1	650	3.4	7.1
<u>Milk Products</u>							
Dairy-Based Toppings	1.5	0.1	na	2.5	46	5.9	12.2

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Table B-3 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Female Teenagers Aged 12 to 19 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	5.9	0.5	1.6	42.8	1,029	1.2	2.3
Fats and Oils							
Fat Emulsions for Bakery Wares	<0.1	<0.1	na	1.5	31	0.2	0.6
Mayonnaise and Mayonnaise-Type Dressings	2.5	0.2	0.7	31.4	782	0.7	1.4
Salad Dressings	2.2	0.2	0.5	11.7	232	1.7	3.3
Fish Products							
Battered Fried Fish Products	0.7	0.1	na	2.4	64	2.3	3.8
Grain Products and Pastas							
Cereal Bars	0.8	0.1	na	10.0	161	0.7	1.1
Gravies and Sauces							
Sauces and Cooking Sauces	5.5	0.5	1.3	25.8	661	1.8	4.3
Meat Products							
Battered Fried Meat Products	0.3	<0.1*	na	0.5	19	3.5*	6.3*
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	17.9	1.5	3.4	99.2	2,456	1.6	3.4
Poultry Products							
Battered Fried Poultry Products	7.3	0.6	2.4	14.0	406	4.3	7.3
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	1.1	0.1	na	7.6	170	1.2	2.3
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.4	<0.1	na	2.0	48	1.6	2.8
Potato Stick Type Products	1.6	0.1	na	3.1	50	4.0	6.6

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

000065

Table B-4 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Male Teenagers Aged 12 to 19 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	10.3	20.6	100.0	2,449	10.3	20.6
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	0.9	0.1	na	2.5	53	3.1	8.6
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.2	0.4	na	7.3	191	5.6	10.5
Cakes	4.0	0.4	na	8.9	185	4.5	9.7
White Breads	12.1	1.3	4.0	37.9	902	3.3	6.5
White Rolls	17.5	1.8	4.6	57.7	1,384	3.1	5.8
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	0.9	0.1	0.3	31.7	994	0.3	0.6
<u>Chewing Gum</u>							
Chewing Gum	0.2	<0.1	na	6.6	172	0.3	0.7
<u>Confections and Frostings</u>							
Frostings	0.3	<0.1	na	4.6	93	0.6	1.2
<u>Dairy Product Analogs</u>							
Coffee Whiteners	0.3	<0.1	na	3.6	74	0.8	2.1
<u>Fats and Oils</u>							
Margarine	2.5	0.3	0.7	55.1	1,348	0.5	1.1
<u>Fish Products</u>							
Surimi-Based Fish Products	0	na	na	0	0	na	na
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.3	<0.1	0.1	22.8	563	0.1	0.3
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	9.9	1.1	4.0	25.0	556	4.3	8.2
<u>Milk Products</u>							
Dairy-Based Toppings	0.7	0.1	na	1.7	32	4.0	8.9

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Table B-4 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Male Teenagers Aged 12 to 19 Years Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	6.2	0.7	1.9	44.3	1,101	1.5	2.9
Fats and Oils							
Fat Emulsions for Bakery Wares	<0.1	<0.1*	na	0.6	26	0.1*	0.4*
Mayonnaise and Mayonnaise-Type Dressings	2.3	0.2	0.8	27.4	747	0.9	1.7
Salad Dressings	1.4	0.1	na	8.0	173	1.8	4.2
Fish Products							
Battered Fried Fish Products	0.5	0.1	na	2.0	46	2.7	5.5
Grain Products and Pastas							
Cereal Bars	0.5	0.1	na	5.8	121	0.9	1.6
Gravies and Sauces							
Sauces and Cooking Sauces	6.5	0.7	2.0	30.9	665	2.2	4.4
Meat Products							
Battered Fried Meat Products	0.5	<0.1*	na	0.7	15	6.5*	10.8*
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	18.8	2.0	4.3	99.0	2,431	2.0	4.3
Poultry Products							
Battered Fried Poultry Products	7.6	0.7	2.6	15.3	471	4.9	9.3
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	0.7	0.1	na	5.2	116	1.5	2.9
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.4	<0.1	na	2.4	55	1.7	3.1
Potato Stick Type Products	1.0	0.1	na	2.2	39	4.2	5.7

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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Table B-5 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Female Adults Aged 20 Years and Over Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	7.5	14.5	99.8	6,745	7.5	14.6
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	4.0	0.3	na	7.8	466	3.9	9.6
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.5	0.3	na	9.1	583	3.5	6.4
Cakes	5.2	0.4	1.0	11.9	792	3.2	7.1
White Breads	9.3	0.7	2.4	30.5	2,111	2.3	4.5
White Rolls	9.9	0.7	2.2	38.7	2,452	1.9	3.6
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	0.5	<0.1	0.1	19.5	1,551	0.2	0.4
<u>Chewing Gum</u>							
Chewing Gum	0.2	<0.1	na	4.5	271	0.4	0.6
<u>Confections and Frostings</u>							
Frostings	0.2	<0.1	na	3.8	223	0.4	0.5
<u>Dairy Product Analogs</u>							
Coffee Whiteners	3.5	0.3	0.8	22.8	1,534	1.1	2.9
<u>Fats and Oils</u>							
Margarine	4.9	0.4	0.9	77.7	5,340	0.5	1.0
<u>Fish Products</u>							
Surimi-Based Fish Products	<0.1	<0.1*	na	0.1	1	0.7*	0.7*
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.4	<0.1	0.1	26.7	1,936	0.1	0.2
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	9.1	0.7	2.6	25.9	1,618	2.6	5.4
<u>Milk Products</u>							
Dairy-Based Toppings	1.6	0.1	na	2.9	170	4.0	10.6

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Table B-5 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Female Adults Aged 20 Years and Over Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	4.0	0.3	1.0	32.5	2,228	0.9	1.7
Fats and Oils							
Fat Emulsions for Bakery Wares	0.1	<0.1	na	2.2	144	0.2	0.2
Mayonnaise and Mayonnaise-Type Dressings	3.3	0.2	0.8	40.6	2,666	0.6	1.3
Salad Dressings	4.2	0.3	1.1	25.8	1,478	1.3	2.6
Fish Products							
Battered Fried Fish Products	1.1	0.1	na	3.1	236	2.6	6.1
Grain Products and Pastas							
Cereal Bars	0.8	0.1	na	7.9	428	0.8	1.4
Gravies and Sauces							
Sauces and Cooking Sauces	6.4	0.5	1.4	29.3	1,848	1.6	3.8
Meat Products							
Battered Fried Meat Products	0.2	<0.1	na	0.6	40	2.9	4.4
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	19.3	1.5	3.2	98.3	6,626	1.5	3.3
Poultry Products							
Battered Fried Poultry Products	5.1	0.4	1.0	11.3	826	3.2	6.4
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	1.4	0.1	0.1	10.3	693	1.1	1.9
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.6	<0.1	na	3.0	184	1.4	2.6
Potato Stick Type Products	0.3	<0.1	na	0.9	62	2.0	3.9

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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Table B-6 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Male Adults Aged 20 Years and Over Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	8.6	16.2	100.0	6,112	8.6	16.2
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	4.0	0.3	0.5	11.3	632	3.0	6.6
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.0	0.3	na	8.4	539	4.1	8.1
Cakes	4.6	0.4	0.8	10.7	660	3.7	7.5
White Breads	10.6	0.9	3.1	33.4	2,116	2.8	5.6
White Rolls	11.9	1.0	2.9	47.3	2,666	2.2	4.2
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	0.5	<0.1	0.1	19.0	1,359	0.2	0.5
<u>Chewing Gum</u>							
Chewing Gum	0.1	<0.1	na	3.2	187	0.2	0.5
<u>Confections and Frostings</u>							
Frostings	0.1	<0.1	na	4.1	202	0.2	0.4
<u>Dairy Product Analogs</u>							
Coffee Whiteners	2.1	0.2	0.4	17.5	1,163	1.0	2.3
<u>Fats and Oils</u>							
Margarine	4.2	0.4	0.9	74.7	4,631	0.5	1.1
<u>Fish Products</u>							
Surimi-Based Fish Products	<0.1	<0.1*	na	0.1	3	0.6*	0.8*
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.3	<0.1	0.1	23.1	1,510	0.1	0.2
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	8.2	0.7	2.7	24.8	1,450	2.9	5.5
<u>Milk Products</u>							
Dairy-Based Toppings	0.8	0.1	na	1.9	108	3.5	6.3

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Table B-6 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by Male Adults Aged 20 Years and Over Within the U.S. (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	3.7	0.3	1.2	30.6	1,809	1.1	2.1
Fats and Oils							
Fat Emulsions for Bakery Wares	<0.1	<0.1	na	1.3	81	0.1	0.3
Mayonnaise and Mayonnaise-Type Dressings	3.3	0.3	0.9	41.5	2,409	0.7	1.4
Salad Dressings	3.2	0.3	1.0	21.8	1,108	1.3	2.7
Fish Products							
Battered Fried Fish Products	1.5	0.1	na	4.4	246	2.8	5.4
Grain Products and Pastas							
Cereal Bars	0.6	0.1	na	7.7	298	0.7	1.4
Gravies and Sauces							
Sauces and Cooking Sauces	6.5	0.6	1.8	31.3	1,738	1.8	4.0
Meat Products							
Battered Fried Meat Products	0.3	<0.1	na	1.0	64	2.9	4.6
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	21.7	1.9	4.2	99.1	6,027	1.9	4.2
Poultry Products							
Battered Fried Poultry Products	5.9	0.5	2.1	14.1	929	3.5	6.5
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	0.7	0.1	na	7.2	378	0.9	1.7
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.6	0.1	na	3.5	171	1.5	2.9
Potato Stick Type Products	0.5	<0.1	na	1.3	65	3.0	5.0

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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Table B-7 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by the Total US Population (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100.0	9.5	19.0	99.1	23,896	9.6	19.1
Approved Food-Uses							
<u>Alcoholic Beverages</u>							
Mixed Drinks, Cocktails, and Dessert Drinks	3.2	0.2	na	7.1	1,217	3.4	7.6
<u>Baked Goods and Baking Mixes</u>							
Biscuit Mixes	4.2	0.4	na	8.3	1,886	4.7	9.2
Cakes	4.6	0.4	0.6	10.6	2,320	4.0	8.5
White Breads	10.9	1.1	3.7	33.3	8,292	3.4	7.1
White Rolls	11.7	1.1	3.3	43.3	9,892	2.5	4.9
<u>Beverages and Beverage Bases</u>							
Fruit-Flavored Beverages	0.6	0.1	0.2	24.7	7,899	0.3	0.6
<u>Chewing Gum</u>							
Chewing Gum	0.2	<0.1	na	4.7	1,194	0.4	0.7
<u>Confections and Frostings</u>							
Frostings	0.2	<0.1	na	4.5	887	0.5	0.7
<u>Dairy Product Analogs</u>							
Coffee Whiteners	2.2	0.2	0.3	15.2	2,895	1.1	2.7
<u>Fats and Oils</u>							
Margarine	4.4	0.4	1.1	73.2	17,256	0.6	1.3
<u>Fish Products</u>							
Surimi-Based Fish Products	<0.1	<0.1*	na	<0.1	4	0.7*	0.8*
<u>Fresh Fruits and Vegetables</u>							
Raw Fruits	0.3	<0.1	0.1	25.5	6,508	0.1	0.3
<u>Frozen Dairy Desserts and Mixes</u>							
Ice Cream, Ice Milk, and Sherbet	9.4	1.0	3.4	26.6	6,007	3.7	7.7
<u>Milk Products</u>							
Dairy-Based Toppings	1.1	0.1	na	2.3	442	4.6	11.0

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Table B-7 Estimated Daily Per Kilogram Body Weight Intake of Sucrose Fatty Acid Esters from Individual Approved and Proposed Food-Uses by the Total US Population (2003-2008 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Proposed Food-Uses							
Breakfast Cereals							
RTE Breakfast Cereals	4.6	0.5	1.7	37.8	10,005	1.4	2.9
Fats and Oils							
Fat Emulsions for Bakery Wares	<0.1	<0.1	na	2.1	511	0.3	0.6
Mayonnaise and Mayonnaise-Type Dressings	3.0	0.3	0.8	36.6	8,049	0.7	1.4
Salad Dressings	3.1	0.3	0.9	19.3	3,297	1.3	2.8
Fish Products							
Battered Fried Fish Products	1.2	0.1	na	3.1	704	2.9	6.3
Grain Products and Pastas							
Cereal Bars	0.7	0.1	na	7.8	1,337	0.9	1.9
Gravies and Sauces							
Sauces and Cooking Sauces	6.3	0.6	1.7	28.7	6,203	2.0	4.6
Meat Products							
Battered Fried Meat Products	0.3	<0.1	na	0.7	164	3.4	5.7
Other							
Fat-Soluble Colors, Flavors, and Nutraceutical Substances	19.9	1.8	4.2	97.9	23,503	1.9	4.2
Poultry Products							
Battered Fried Poultry Products	5.6	0.5	1.6	12.3	3,334	4.0	7.6
Processed Fruits and Fruit Juices							
Processed Fruit Filling Preparations	1.2	0.2	na	9.5	2,244	1.6	3.3
Processed Vegetables and Vegetable Juices							
Battered Fried Vegetable Products	0.5	<0.1	na	2.9	548	1.7	3.3
Potato Stick Type Products	0.6	0.1	na	1.6	360	4.1	8.4

na = not available; RTE = ready-to-eat

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

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APPENDIX C
Representative NHANES Food Codes for Approved and Proposed Food-Uses
of Sucrose Fatty Acid Esters in the U.S. (NHANES DATA 2003-2004, 2005-2006,
2007-2008)

**Representative NHANES Food Codes for Approved and Proposed Beverage-Uses of
Sucrose Fatty Acid Esters in the U.S.**

Approved Food Uses

Alcoholic Beverages

**Mixed Drinks, Cocktails, and Dessert Drinks
[Sucrose Fatty Acid Esters] = 1.0%**

93201000	Cordial or liqueur
93301000	Cocktail, NFS
93301010	Alexander
93301020	Bacardi cocktail
93301030	Bloody Mary
93301031	Canadian Club and soda
93301032	Cape Cod
93301040	Daiquiri
93301050	Gimlet
93301060	Gin and Tonic
93301070	Grasshopper
93301080	High ball
93301085	Kamikaze
93301090	Manhattan
93301100	Margarita
93301110	Martini
93301120	Mint julep
93301130	Old fashioned
93301135	Rob Roy
93301136	Rusty Nail
93301139	Salty Dog
93301140	Screwdriver
93301141	Seabreeze
93301142	Seven and Seven
93301150	Tom Collins
93301160	Whiskey sour
93301170	Bourbon and soda
93301180	Mixed Drinks (for recipe modifications)
93301190	Rum and cola
93301200	Pina Colada
93301220	Coquito, Puerto Rican (coconut, rum)
93301230	Sloe gin fizz
93301240	Black Russian
93301250	White Russian
93301270	Fruit punch, alcoholic
93301280	Singapore Sling
93301290	Stinger
93301300	Gibson
93301310	Mai Tai
93301320	Tequila Sunrise
93301330	Gin Rickey
93301340	Golden Cadillac
93301360	Long Island iced tea
93301370	Fuzzy Navel
93301400	Irish Coffee
93301450	Liqueur with cream

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Intertek

93301500	Frozen daiquiri
93301510	Frozen margarita
93301550	Eggnog, alcoholic
93301600	Gin fizz
93302000	Rum, hot buttered
93302100	Zombie
93402000	Wine, dessert, sweet
93404000	Wine cooler
93404500	Sangria
93404600	Sangria, Puerto Rican style
93405000	Wine spritzer
93501000	Brandy
93502000	Whiskey
93503000	Gin
93504000	Rum
93504100	Rum cooler
93505000	Vodka

Mixed Foods Containing Mixed Drinks, Cocktails, and Dessert Drinks (Adjusted for mixed drinks, cocktails, and dessert drinks content of 5 to 50%) [Sucrose Fatty Acid Esters] = 0.01 to 0.1%

27135050	Veal Marsala
32120200	Zabaglione
53371100	Pie, chiffon, with liqueur
91361050	Duck sauce

Baked Goods and Baking Mixes

Biscuit Mixes [Sucrose Fatty Acid Esters] = 1.0%

50030000	Biscuit mix, dry
52101000	Biscuit, baking powder or buttermilk type, NS as to made from mix, refrigerated d
52101020	Biscuit dough, raw
52101030	Biscuit dough, fried
52101100	Biscuit, baking powder or buttermilk type, made from mix
52101150	Biscuit, baking powder or buttermilk type, made from refrigerated dough, lowfat
52102040	Biscuit, baking powder or buttermilk type, made from refrigerated dough
52103000	Biscuit, baking powder or buttermilk type, commercially baked
52104010	Biscuit, baking powder or buttermilk type, made from home recipe
52104040	Biscuit, whole wheat
52104100	Biscuit, cheese
52104200	Biscuit, cinnamon-raisin

Mixed Foods Containing Biscuit Mixes (Adjusted for biscuit content of ~20 to 30%) [Sucrose Fatty Acid Esters] = 0.2 to 0.3%

27540145	Chicken fillet (breaded, fried) sandwich on biscuit
27560705	Sausage balls (made with biscuit mix and cheese)
32202200	Egg and cheese on biscuit

Cakes [Sucrose Fatty Acid Esters] = 0.5%

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Intertek

51165000	Coffee cake, yeast type
51165100	Coffee cake, yeast type, fat free, cholesterol free, with fruit
53100100	Cake, NS as to type, with or without icing
53101000	Cake, angel food, NS as to icing
53101100	Cake, angel food, without icing
53101200	Cake, angel food, with icing
53101250	Cake, angel food, with fruit and icing or filling
53101300	Cake, angel food, chocolate, without icing
53102000	Cake, applesauce, NS as to icing
53102100	Cake, applesauce, without icing
53102200	Cake, applesauce, with icing
53102300	Cake, applesauce, diet, without icing
53102500	Cake, banana, NS as to icing
53102600	Cake, banana, without icing
53102700	Cake, banana, with icing
53102800	Cake, black forest (chocolate-cherry)
53103000	Cake, Boston cream pie
53103500	Cake, butter, NS as to icing
53103550	Cake, butter, without icing
53103600	Cake, butter, with icing
53104000	Cake, carrot, NS as to icing
53104100	Cake, carrot, without icing
53104260	Cake, carrot, with icing
53104300	Cake, carrot, diet
53104400	Cake, coconut, with icing
53104500	Cheesecake
53104520	Cheesecake, diet
53104550	Cheesecake with fruit
53104570	Cheesecake, diet, with fruit
53104600	Cheesecake, chocolate
53104650	Cheesecake, chocolate, reduced fat
53104900	Cake, chocolate, made with mayonnaise or salad dressing, NS as to icing
53104920	Cake, chocolate, made with mayonnaise or salad dressing, without icing or filling
53104950	Cake, chocolate, made with mayonnaise or salad dressing, with icing, coating, or
53105500	Cake, chocolate, with icing, diet
53106100	Cake, Poor Man's (spice-type), without icing
53106500	Cake, cream, without icing or topping
53107000	Cake, cupcake, NS as to type or icing
53107100	Cake, cupcake, NS as to type, without icing
53107200	Cake, cupcake, NS as to type, with icing
53108000	Cake, cupcake, chocolate, NS as to icing
53108100	Cake, cupcake, chocolate, without icing or filling
53108200	Cake, cupcake, chocolate, with icing or filling
53109000	Cake, cupcake, not chocolate, NS as to icing
53109100	Cake, cupcake, not chocolate, without icing or filling
53109200	Cake, cupcake, not chocolate, with icing or filling
53109210	Cake, cupcake, not chocolate, with icing or filling, lowfat, cholesterol free
53109250	Cake, cupcake, not chocolate, with fruit and cream filling
53109270	Cake, cupcake, chocolate, with or without icing, fruit filling or cream filling,
53109300	Cake, Dobos Torte (non-chocolate layer cake with chocolate filling and icing)
53110000	Cake, fruit cake, light or dark, holiday type cake
53110100	Cake, plum pudding
53111000	Cake, gingerbread, without icing
53111500	Cake, graham cracker, without icing
53112000	Cake, ice cream and cake roll, chocolate
53112100	Cake, ice cream and cake roll, not chocolate

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53112150	Cake, frozen yogurt and cake layer, not chocolate, with icing
53112160	Cake, frozen yogurt and cake layer, chocolate, with icing
53112500	Cake, ice box with fruit and whipped cream
53113000	Cake, jelly roll
53113950	Cake, lemon, NS as to icing
53114000	Cake, lemon, without icing
53114100	Cake, lemon, with icing
53114150	Cake, lemon, lowfat, NS as to icing
53114200	Cake, lemon, lowfat, without icing
53114250	Cake, lemon, lowfat, with icing
53115000	Cake, marble, NS as to icing
53115100	Cake, marble, without icing
53115200	Cake, marble, with icing
53115300	Cake, nut, NS as to icing
53115310	Cake, nut, without icing
53115320	Cake, nut, with icing
53115400	Cake, oatmeal, without icing
53115410	Cake, oatmeal, with icing
53115450	Cake, peanut butter, with icing
53115500	Cake, pineapple, fat free, cholesterol free, without icing
53115600	Cake, poppyseed, without icing
53116000	Cake, pound, without icing
53116020	Cake, pound, with icing
53116270	Cake, pound, chocolate
53116280	Cake, pound, chocolate, fat free, cholesterol free
53116350	Cake, pound, Puerto Rican style (Ponque)
53116380	Cake, pound, fat free, cholesterol free
53116390	Cake, pound, reduced fat, cholesterol free
53116490	Cake, pumpkin, NS as to icing
53116500	Cake, pumpkin, without icing
53116510	Cake, pumpkin, with icing
53116550	Cake, raisin-nut, without icing
53116560	Cake, raisin-nut, with icing
53116570	Cake, Ravani (made with farina)
53116600	Cake, rice flour, without icing
53116650	Cake, Quezadilla, El Salvadorian style
53116750	Cake, soy flour, without icing
53117000	Cake, spice, NS as to icing
53117100	Cake, spice, without icing
53117200	Cake, spice, with icing
53118000	Cake, sponge, NS as to icing
53118100	Cake, sponge, without icing
53118200	Cake, sponge, with icing
53118310	Cake, sponge, chocolate, with icing
53118410	Cake, rum flavored, without icing (Sopa Borracha)
53118500	Cake, torte
53118600	Cake, chiffon, NS as to icing
53118700	Cake, chiffon, without icing
53118800	Cake, chiffon, with icing
53118900	Cake, chiffon, chocolate, without icing
53118950	Cake, chiffon, chocolate, with icing
53119000	Cake, upside down (all fruits)
53120400	Cake, white, eggless, lowfat
53120500	Cake, whole wheat, with fruit and nuts, without icing
53122070	Cake, shortcake, biscuit type, with whipped cream and fruit
53122080	Cake, shortcake, biscuit type, with fruit

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53123070	Cake, shortcake, sponge type, with whipped cream and fruit
53123080	Cake, shortcake, sponge type, with fruit
53123500	Cake, shortcake, with whipped topping and fruit, diet
53124100	Cake, zucchini, NS as to icing
53124110	Cake, zucchini, without icing
53124120	Cake, zucchini, with icing
53610120	Coffee cake, crumb or quick-bread type, reduced fat, cholesterol free
53610150	Coffee cake, crumb or quick-bread type, with icing
53610170	Coffee cake, crumb or quick-bread type, with fruit
53610200	Coffee cake, crumb or quick-bread type, cheese-filled
53610250	Coffee cake, crumb or quick-bread type, custard filled

White Breads

[Sucrose Fatty Acid Esters] = 0.01 to 0.55%

51101000	Bread, white
51101010	Bread, white, toasted
51102010	Bread, white with whole wheat swirl
51102020	Bread, white with whole wheat swirl, toasted
51109100	Bread, pita
51109110	Bread, pita, toasted
51111010	Bread, cheese
51111040	Bread, cheese, toasted
51113010	Bread, cinnamon
51113100	Bread, cinnamon, toasted
51121110	Bread, onion
51122000	Bread, reduced calorie and/or high fiber, white or NFS
51122010	Bread, reduced calorie and/or high fiber, white or NFS, toasted
51122100	Bread, reduced calorie and/or high fiber, white or NFS, with fruit and/or nuts
51122110	Bread, reduced calorie and/or high fiber, white or NFS, with fruit and/or nuts, t
51122300	Bread, white, special formula, added fiber
51122310	Bread, white, special formula, added fiber, toasted
51122400	Bread, white, special formula, high calcium
51130510	Bread, white, low sodium or no salt
51130520	Bread, white, low sodium or no salt, toasted
51135000	Bread, vegetable
51167000	Brioche
51301540	Bread, French or Vienna, whole wheat, other than 100% or NS as to 100%, made from
51301550	Bread, French or Vienna, whole wheat, other than 100% or NS as to 100%, made from
51701010	Bread, cottonseed, toasted
51804010	Bread, soy
51804020	Bread, soy, toasted
51805010	Bread, sunflower meal

Mixed Foods Containing White Breads

(Adjusted for white bread content of ~3.4 to 37%)

[Sucrose Fatty Acid Esters] = 0.02 to 0.21%

13210110	Pudding, bread
13210150	Puerto Rican bread pudding made with evaporated milk and rum (Budin de pan)
14640000	Cheese sandwich
14640100	Cheese sandwich, grilled
14640300	Cheese spread sandwich
27214600	Creamed dried beef on toast
27250080	Salmon loaf
27250150	Tuna loaf

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27250260	Lobster with bread stuffing, baked
27250450	Shrimp toast, fried
27351020	Codfish salad, Puerto Rican style (Gazpacho de bacalao)
27500050	Sandwich, NFS
27500100	Meat sandwich, NFS
27510000	Beef sandwich, NFS
27510910	Corned beef sandwich
27511010	Pastrami sandwich
27513010	Roast beef sandwich
27513020	Roast beef sandwich, with gravy
27513030	Roast beef sandwich dipped in egg, fried, with gravy and spread
27513050	Roast beef sandwich with cheese
27520110	Bacon sandwich, with spread
27520120	Bacon and cheese sandwich, with spread
27520135	Bacon, chicken & tomato club sandwich w/cheese, lettuce & sprd
27520140	Bacon and egg sandwich
27520150	Bacon, lettuce, and tomato sandwich with spread
27520165	Bacon, chick fillet (brd, fried), & tom club w/lettuce & sprd
27520166	Bacon, chick fillet (brd, fried), & tom club w/chs, lettuce & sprd
27520300	Ham sandwich, with spread
27520310	Ham sandwich with lettuce and spread
27520320	Ham and cheese sandwich, with lettuce and spread
27520330	Ham and egg sandwich
27520340	Ham salad sandwich
27520350	Ham and cheese sandwich, with spread, grilled
27520520	Pork sandwich
27520530	Pork sandwich, with gravy
27520540	Ham and tomato club sandwich, with lettuce and spread
27540110	Chicken sandwich, with spread
27540120	Chicken salad or chicken spread sandwich
27540130	Chicken barbecue sandwich
27540310	Turkey sandwich, with spread
27540320	Turkey salad or turkey spread sandwich
27540330	Turkey sandwich, with gravy
27550510	Sardine sandwich, with lettuce and spread
27550710	Tuna salad sandwich, with lettuce
27550720	Tuna salad sandwich
27560000	Luncheon meat sandwich, NFS, with spread
27560110	Bologna sandwich, with spread
27560120	Bologna and cheese sandwich, with spread
27560510	Salami sandwich, with spread
27560710	Sausage sandwich
27563010	Meat spread or potted meat sandwich
27570310	Hors d'oeuvres, with spread
32105190	Egg casserole with bread, cheese, milk and meat
32201000	Fried egg sandwich
32203010	Egg salad sandwich
32204010	Scrambled egg sandwich
42301010	Peanut butter sandwich
42302010	Peanut butter and jelly sandwich
42303010	Peanut butter and banana sandwich
55301000	French toast, plain
72116140	Caesar salad (with romaine)
72125260	Spinach and cheese casserole
74701000	Tomato sandwich

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White Rolls

[Sucrose Fatty Acid Esters] = 0.01 to 0.48%

51000200	Roll, NS as to major flour
51000230	Roll, NS as to major flour, toasted
51000300	Roll, hard, NS as to major flour
51150000	Roll, white, soft
51150100	Roll, white, soft, toasted
51152000	Roll, white, soft, reduced calorie and/or high fiber
51152100	Roll, white, soft, reduced calorie and/or high fiber, toasted
51153000	Roll, white, hard
51153010	Roll, white, hard, toasted
51154600	Roll, cheese
51155000	Roll, French or Vienna
51155010	Roll, French or Vienna, toasted
51156500	Roll, garlic
51157000	Roll, hoagie, submarine
51157010	Roll, hoagie, submarine, toasted
51160110	Roll, sweet, cinnamon bun, frosted
51161020	Roll, sweet, with fruit, frosted
51161030	Roll, sweet, with fruit, frosted, diet
51161050	Roll, sweet, with nuts, frosted
51161070	Roll, sweet, with fruit, frosted, fat free
51161150	Roll, sweet, with fruit and nuts, frosted
51161280	Roll, sweet, with raisins and icing, Mexican (Pan Dulce)

Mixed Foods Containing White Rolls

(Adjusted for white roll content of ~7 to 29%)

[Sucrose Fatty Acid Ester Content] = ~0.03 to 0.14%

14640200	Cheese sandwich, hoagie
27510110	Beef barbecue or Sloppy Joe, on bun
27510130	Beef barbecue submarine sandwich, on bun
27510210	Cheeseburger, plain, on bun
27510220	Cheeseburger, with mayonnaise or salad dressing, on bun
27510230	Cheeseburger, with mayonnaise or salad dressing and tomatoes, on bun
27510240	Cheeseburger, 1/4 lb meat, plain, on bun
27510250	Cheeseburger, 1/4 lb meat, with mayonnaise or salad dressing, on bun
27510260	Cheeseburger, 1/4 lb meat, with mushrooms in sauce, on bun
27510270	Double cheeseburger (2 patties), plain, on bun
27510280	Double cheeseburger (2 patties), with mayonnaise or salad dressing, on bun
27510290	Double cheeseburger (2 patties), plain, on double-decker bun
27510300	Double cheeseburger (2 patties), with mayonnaise or salad dressing, on double-dec
27510310	Cheeseburger with tomato and/or catsup, on bun
27510311	Cheeseburger, 1 oz meat, plain, on miniature bun
27510320	Cheeseburger, 1/4 lb meat, with tomato and/or catsup, on bun
27510330	Double cheeseburger (2 patties), with tomato and/or catsup, on bun
27510340	Double cheeseburger (2 patties), with mayonnaise or salad dressing and tomatoes,
27510350	Cheeseburger, 1/4 lb meat, with mayonnaise or salad dressing and tomatoes, on bun
27510360	Cheeseburger with mayonnaise or salad dressing, tomato and bacon, on bun
27510370	Double cheeseburger (2 patties, 1/4 lb meat each), with mayonnaise or salad dress
27510375	Double cheeseburger (2 patties, 1/4 lb ea) w/tomato/catsup/bun
27510380	Triple cheeseburger (3 patties, 1/4 lb meat each), with mayonnaise or salad dress
27510390	Double bacon cheeseburger (2 patties, 1/4 lb meat each), on bun
27510410	Chiliburger, on bun
27510420	Taco burger, on bun

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27510425	Double bacon cheeseburger (2 patties, 1/4 lb ea), w/ mayo/bun
27510430	Double bacon cheeseburger (2 patties, 1/4 lb meat each), with mayonnaise or salad
27510435	Double bacon cheeseburger (2 patties, 1/3 lb ea) w/ mayo/ bun
27510440	Bacon cheeseburger, 1/4 lb meat, with mayonnaise or salad dressing and tomatoes,
27510450	Cheeseburger, 1/4 lb meat, with ham, on bun
27510490	Cheeseburger, 1/4 lb meat (beef modified in fat content), with tomato and/or cats
27510500	Hamburger, plain, on bun
27510510	Hamburger, with tomato and/or catsup, on bun
27510520	Hamburger, with mayonnaise or salad dressing and tomatoes, on bun
27510530	Hamburger, 1/4 lb meat, plain, on bun
27510540	Double hamburger (2 patties), with tomato and/or catsup, on bun
27510550	Double hamburger (2 patties), with mayonnaise or salad dressing and tomatoes, on
27510560	Hamburger, 1/4 lb meat, with mayonnaise or salad dressing and tomatoes, on bun
27510570	Hamburger, 2-1/2 oz meat, with mayonnaise or salad dressing and tomatoes, on bun
27510590	Hamburger, with mayonnaise or salad dressing, on bun
27510600	Hamburger, 1 oz meat, plain, on miniature bun
27510610	Hamburger, 1 oz meat, with tomato and/or catsup, on miniature bun
27510620	Hamburger, 1/4 lb meat, with tomato and/or catsup, on bun
27510630	Hamburger, 1/4 lb meat, with mayonnaise or salad dressing, on bun
27510640	Hamburger, 1/4 lb meat (beef modified in fat content), with tomato and/or catsup,
27510650	Double hamburger (2 patties), plain, on bun
27510660	Double hamburger (2 patties), with mayonnaise or salad dressing, on bun
27510670	Double hamburger (2 patties), with mayonnaise or salad dressing and tomatoes, on
27510680	Double hamburger (2 patties, 1/4 lb meat each), with tomato and/or catsup, on bun
27510690	Double hamburger (2 patties, 1/4 lb meat each), with mayonnaise or salad dressing
27510700	Meatball and spaghetti sauce submarine sandwich, on roll
27510710	Pizzaburger (hamburger, cheese, sauce) on 1/2 bun
27510720	Pizzaburger (hamburger, cheese, sauce) on whole bun
27513040	Roast beef submarine sandwich, on roll, with lettuce, tomato and spread
27513060	Roast beef sandwich with bacon and cheese sauce
27513070	Roast beef submarine sandwich, on roll, au jus
27515000	Steak submarine sandwich, on roll, with lettuce and tomato
27515010	Steak sandwich, plain, on roll
27515020	Steak and cheese submarine sandwich, on roll, with lettuce and tomato
27515030	Steak and cheese sandwich, plain, on roll
27515040	Steak and cheese submarine sandwich, plain, on roll
27515070	Steak and cheese submarine sandwich, with fried peppers and onions, on roll
27515150	Steak patty (breaded, fried) sandwich, with mayonnaise or salad dressing, lettuce
27520160	Bacon, chicken, and tomato club sandwich, on multigrain roll with lettuce and spr
27520360	Ham and cheese sandwich, on bun, with lettuce and spread
27520370	Hot ham and cheese sandwich, on bun
27520390	Ham and cheese submarine sandwich, on multigrain roll, with lettuce, tomato and s
27520410	Cuban sandwich, (Sandwich cubano), with spread
27520420	Midnight sandwich, (Media noche), with spread
27520500	Pork, barbecue sauce, onions and dill pickles on white roll
27520510	Pork barbecue or Sloppy Joe, on bun
27540140	Chicken fillet (breaded, fried) sandwich
27540150	Chicken fillet (breaded, fried) sandwich with lettuce, tomato and spread
27540170	Chicken patty sandwich, miniature, with spread
27540190	Chicken patty sandwich, with lettuce and spread
27540240	Chicken fillet, (broiled), sandwich, on whole wheat roll, with lettuce, tomato an
27540250	Chicken fillet, broiled, sandwich with cheese, on whole wheat roll, with lettuce,
27540260	Chicken fillet, broiled, sandwich, on oat bran bun, with lettuce, tomato, spread
27540270	Chicken fillet, broiled, sandwich, with lettuce, tomato, and non-mayonnaise type
27540280	Chicken fillet, broiled, sandwich with cheese, on bun, with lettuce, tomato and s
27540350	Turkey submarine sandwich, on roll, with cheese, lettuce, tomato and spread

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27550000	Fish sandwich, on bun, with spread
27550110	Crab cake sandwich, on bun
27550110	Crab cake sandwich, on bun
27550750	Tuna salad submarine sandwich, on roll, with lettuce
27560310	Corny dog, with chili, on bun
27560320	Frankfurter or hot dog, plain, on bun
27560330	Frankfurter or hot dog, with cheese, plain, on bun
27560340	Frankfurter or hot dog, with catsup and/or mustard, on bun
27560360	Frankfurter or hot dog, with chili, on bun
27560370	Frankfurter or hot dog with chili and cheese, on bun
27560400	Chicken frankfurter or hot dog, plain, on bun
27560410	Puerto Rican sandwich (Sandwich criollo)
27560720	Sausage and spaghetti sauce sandwich
27560910	Submarine, cold cut sandwich, on bun, with lettuce
32202035	Egg, cheese, and sausage on bun
41901020	Soyburger, meatless, with cheese on bun

Beverages and Beverage Bases

Fruit-Flavored Beverages

[Sucrose Fatty Acid Esters] = 0.005%

92510610	Fruit drink
92510650	Tamarind drink, Puerto Rican (Refresco de tamarindo)
92510720	Fruit punch, made with fruit juice and soda
92510810	Grapeade and grape drink
92510910	Grapefruit juice drink
92511010	Lemonade
92511250	Citrus fruit juice drink
92511310	Pineapple-grapefruit juice drink
92512050	Frozen daiquiri mix, from frozen concentrate, reconstituted
92512090	Pina Colada, nonalcoholic
92512110	Whiskey sour, nonalcoholic
92530410	Citrus drink with vitamin C added
92530510	Cranberry juice drink with vitamin C added
92530610	Fruit punch, fruit drink, or fruitade, with vitamin C added
92530950	Vegetable and fruit juice drink, with vitamin C added
92531030	Orange breakfast drink
92531150	Pineapple-orange-grapefruit juice drink with vitamin C added
92541010	Fruit-flavored drink, made from sweetened powdered mix (fortified with vitamin C)
92542000	Fruit-flavored drink, made from powdered mix, mainly sugar, with high vitamin C a
92550040	Fruit juice drink, low calorie
92550110	Cranberry juice drink, low calorie, with vitamin C added
92550300	Grapefruit juice drink, low calorie, with vitamin C added
92550610	Fruit-flavored drinks, punches, ades, low calorie, with vitamin C added
92552000	Fruit-flavored drink, made from powdered mix with high vitamin C added, low calor
92552030	Fruit juice drink, reduced sugar, with vitamin e
92552100	Orange-cranberry juice drink, low calorie, with vitamin C added
92582100	Citrus juice drink, calcium fortified
92582110	Orange breakfast drink, calcium fortified
92582120	Fruit flavored drink, reduced sugar, w/ hi vit c, + calcium

Non-Reconstituted Fruit-Flavored Beverages

(Adjusted for not being reconstituted, 1 part concentrate to 4 parts water)

[Sucrose Fatty Acid Esters] = 0.02%

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92511000	Lemonade, frozen concentrate, not reconstituted
92512040	Frozen daiquiri mix, frozen concentrate, not reconstituted

Mixed Foods Containing Fruit-Flavored Beverages
(Adjusted for fruit-flavored beverage content of ~50 to 80%)
[Sucrose Fatty Acid Esters] = ~0.0025 to 0.004%

92510730	Fruit punch, made with soda, fruit juice, and sherbet or ice cream
92550400	Vegetable & fruit juice drink, low cal, w/ high vit c
92550405	Vegetable & fruit juice drink, low cal, w/ high vit c,+e, a

Chewing Gum

Chewing Gum
[Sucrose Fatty Acid Esters] = 0.5%

91800100	Chewing gum, NFS
91801000	Chewing gum, sugared
91802000	Chewing gum, uncoated, sugarless

Confections and Frostings

Frostings
[Sucrose Fatty Acid Esters] = 0.5%

91305010	Icing, chocolate
91305020	Icing, white

Mixed Foods Containing Frostings
(Adjusted for frosting content of ~10%)
[Sucrose Fatty Acid Esters] = 0.05%

53204000	Cookie, brownie, NS as to icing
53204100	Cookie, brownie, with icing
53204600	Cookie, brownie, with peanut butter fudge icing
53204800	Cookie, brownie, diet, NS as to icing
53204830	Cookie, brownie, lowfat, with icing
53204850	Cookie, brownie, fat free, cholesterol free, with icing
53244010	Cookie, butter or sugar, with chocolate icing or filling
53244020	Cookie, butter or sugar, iced, with icing other than chocolate
53420000	Cream puff, eclair, custard or cream filled, NS as to icing
53510000	Danish pastry, plain or spice
53520140	Doughnut, cake type, chocolate covered
53520160	Doughnut, cake type, chocolate, with chocolate icing
53521100	Doughnut, raised or yeast, chocolate, with chocolate icing
53521230	Doughnut, custard-filled, with icing

Dairy Product Analogs

Coffee Whiteners
[Sucrose Fatty Acid Esters] = 0.5%

12200100	Cream substitute, NS as to frozen, liquid, or powdered
12210100	Cream substitute, frozen
12210200	Cream substitute, liquid

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12210210	Cream substitute, flavored, liquid
12210250	Cream substitute, light, liquid
12210255	Cream substitute, light, flavored, liquid
12210260	Cream substitute, fat free, liquid
12210270	Cream substitute, fat free, flavored, liquid
12210305	Cream substitute, sugar free, liquid
12210310	Cream substitute, sugar free, flavored, liquid
12210400	Cream substitute, powdered
12210410	Cream substitute, light, powdered
12210420	Cream substitute, flavored, powdered
12210430	Cream substitute, fat free, powder
12210440	Cream substitute, fat free, flavored, powder
12210500	Cream substitute, sugar free, powder
12210505	Cream substitute, sugar free, flavored, powder

Coffee Whiteners

(Adjusted for coffee whitener content of ~2 to 7%)

[Sucrose Fatty Acid Esters] = ~0.01 to 0.03%

92121000	Coffee, made from powdered instant mix, with whitener and sugar, instant
92121020	Coffee and cocoa (mocha), made from powdered instant mix, with whitener, presweet
92121030	Coffee and cocoa (mocha), made from powdered instant mix, with whitener and low c
92121040	Coffee, made from powdered instant mix, with whitener and low calorie sweetener
92121050	Coffee and cocoa (mocha), made from powdered instant mix, with whitener and low c
92130000	Coffee, presweetened with sugar, pre-lightened
92130010	Coffee, pre-lightened, no sugar
92192000	Coffee and cocoa (mocha) mix, dry instant powder with whitener, presweetened
92192030	Coffee and cocoa (mocha) mix, dry instant powder with whitener and low calorie sw
92192040	Coffee and cocoa (mocha) mix, dry instant powder, with whitener and low calorie s
92193000	Coffee, dry instant powder, with whitener and sugar
92193020	Coffee, dry instant powder, with whitener and low calorie sweetener

Margarine

[Sucrose Fatty Acid Esters] = 0.5%

81100000	Table fat, NFS
81102000	Margarine, NFS
81102010	Margarine, stick, salted
81102020	Margarine, tub, salted
81102030	Margarine, liquid, salted
81103020	Margarine, whipped, tub, salted
81103030	Margarine, stick, unsalted
81103040	Margarine-like spread, stick, salted
81103041	Margarine-like spread, made with yogurt, stick, salted
81103060	Margarine, tub, unsalted
81103070	Margarine, whipped, tub, unsalted
81103080	Margarine-like spread, tub, salted
81103090	Margarine-like spread, liquid, salted
81103100	Margarine-like spread, stick, unsalted
81103120	Margarine-like spread, tub, unsalted
81103130	Margarine-like spread, whipped, tub, salted
81103140	Margarine-like spread, tub, sweetened
81104010	Margarine-like spread, reduced calorie, about 40% fat, tub, salted
81104011	Margarine-like spread, reduced calorie, about 40% fat, made with yogurt, tub, salted
81104020	Margarine-like spread, reduced calorie, about 40% fat, stick, salted
81104050	Margarine-like spread, reduced calorie, about 20% fat, tub, salted

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81104070	Margarine-like spread, reduced calorie, about 20% fat, tub, unsalted
81104100	Margarine-like spread, fat free, tub, salted
81104110	Margarine-like spread, fat free, liquid, salted
81104500	Vegetable oil-butter spread, stick, salted
81105010	Butter-margarine blend, stick, salted
81105020	Butter-margarine blend, tub, salted
81105030	Butter-margarine blend, stick, unsalted
81105500	Butter-vegetable oil blend

Mixed Foods Containing Margarine and Margarine-Like Spreads (Adjusted for margarine and margarine-like spread content of ~10 to 18%) [Sucrose Fatty Acid Esters] = ~0.03 to 1.3%

14640100	Cheese sandwich, grilled
26107130	Catfish, breaded or battered, baked
26133130	Porgy, breaded or battered, baked
27116100	Beef curry
27135020	Veal scallopini
27151050	Shrimp in garlic sauce, Puerto Rican style (mixture) (Camarones al ajillo)
27560410	Puerto Rican sandwich (Sandwich criollo)
32104100	Egg, scrambled, made from dry eggs
33102010	Scrambled egg, made from powdered mixture
58122310	Knish, potato
58122320	Knish, cheese
58122330	Knish, meat
58124210	Pastry, cheese-filled
58128210	Dressing with oysters
63107090	Banana, red, fried
63107210	Banana, ripe, fried
91305010	Icing, chocolate
91305020	Icing, white

Mixed Foods Containing Margarine and Margarine-Like Spreads (Adjusted for margarine and margarine-like spread content of ~5 to 9%) [Sucrose Fatty Acid Esters] = ~0.30 to 0.62%

13210810	Puerto Rican pumpkin pudding (Flan de calabaza)
14630200	Cheese souffle
14640000	Cheese sandwich
14650150	Cheese sauce made with lowfat cheese
26100130	Fish, NS as to type, breaded or battered, baked
26109130	Cod, breaded or battered, baked
26111120	Croaker, baked or broiled
26111130	Croaker, breaded or battered, baked
26115130	Flounder, breaded or battered, baked
26117130	Haddock, breaded or battered, baked
26133120	Porgy, baked or broiled
26157130	Whiting, breaded or battered, baked
26215120	Turtle (terrapin), cooked, NS as to cooking method
26303120	Clams, baked or broiled
26305120	Crab, baked or broiled
26313110	Mussels, cooked, NS as to cooking method
26315110	Oysters, cooked, NS as to cooking method
26315120	Oysters, baked or broiled
27113000	Beef with cream or white sauce (mixture)
27113200	Creamed chipped or dried beef

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27143000	Chicken or turkey with cream sauce (mixture)
27146150	Chicken curry
27150020	Crab, deviled
27150030	Crab imperial
27150100	Shrimp, curried
27212300	Beef and noodles with cream or white sauce (mixture)
27214600	Creamed dried beef on toast
27220080	Ham croquette
27233000	Lamb or mutton and noodles with gravy (mixture)
27235750	Veal and noodles with cream or white sauce (mixture)
27236000	Venison/deer and noodles with cream or white sauce (mixture)
27243400	Chicken or turkey and rice with (mushroom) soup (mixture)
27246300	Chicken or turkey cake, patty, or croquette
27246400	Chicken or turkey souffle
27250040	Crab cake
27250550	Seafood souffle
27250610	Tuna noodle casserole with cream or white sauce
27250820	Fish and rice with cream sauce
27260510	Liver dumpling
27415150	Beef chow mein or chop suey, no noodles
27420390	Pork chow mein or chop suey, no noodles
27443110	Chicken or turkey a la king with vegetables (including carrots, broccoli, and/or
27443120	Chicken or turkey a la king with vegetables (excluding carrots, broccoli, and dark
27460010	Chow mein or chop suey, NS as to type of meat, no noodles
27463000	Stewed gizzards, Puerto Rican style (Mollejitas guisadas)
27500050	Sandwich, NFS
27500100	Meat sandwich, NFS
27513030	Roast beef sandwich dipped in egg, fried, with gravy and spread
27520410	Cuban sandwich, (Sandwich cubano), with spread
27560000	Luncheon meat sandwich, NFS, with spread
27560110	Bologna sandwich, with spread
27560510	Salami sandwich, with spread
31106000	Egg, whole, baked, NS as to fat added in cooking
31106020	Egg, whole, baked, fat added in cooking
32105130	Egg omelet or scrambled egg, with onions, peppers, tomatoes, and mushrooms
32202040	Egg, cheese, and beef on English Muffin
32202200	Egg and cheese on biscuit
51000250	Roll, made from home recipe or purchased at a bakery, NS as to major flour
51000260	Roll, made from home recipe or purchased at a bakery, toasted, NS as to major flour
51151060	Roll, white, soft, made from home recipe or purchased at a bakery
52105100	Scone
52105110	Scone, whole wheat
52105200	Scone, with fruit
56202100	Millet, cooked, fat added in cooking
56205400	Rice, cooked, NS as to type, fat added in cooking
56205420	Rice, white, cooked, regular, fat added in cooking
56205430	Rice, white, cooked, instant, fat added in cooking
56205440	Rice, white, cooked, converted, fat added in cooking
56205510	Rice, brown, cooked, regular, fat added in cooking
56205530	Rice, brown, cooked, instant, NS as to fat added in cooking
56205550	Rice, brown, cooked, instant, fat added in cooking
56207120	Bulgur, cooked or canned, fat added in cooking
56207180	Couscous, plain, cooked, fat added in cooking
58108010	Calzone, with meat and cheese
58122210	Gnocchi, cheese
58128120	Cornmeal dressing with chicken or turkey and vegetables

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58128220	Dressing with chicken or turkey and vegetables
58128250	Dressing with meat and vegetables
58155610	Rice meal fritter, Puerto Rican style (Almojabana)
58156410	Rice with onions, Puerto Rican style (arroz con cebollas)
58160110	Rice with beans
58162090	Stuffed pepper, with meat
58162120	Stuffed pepper, with rice, meatless
58163610	Rice-vegetable medley
63101410	Apple rings, fried
63101500	Apple, fried
71501030	White potato, from fresh, mashed, made with fat
71501040	White potato, from dry, mashed, made with milk and fat
71501300	White potato, from dry, mashed, NS as to milk or fat
71501310	White potato, from fresh, mashed, NS as to milk or fat
71905210	Candied ripe plantain, Puerto Rican style (Platano en almibar)
72125240	Spinach souffle
73102240	Carrots, cooked, NS as to form, glazed
73102241	Carrots, cooked, from fresh, glazed
73102242	Carrots, cooked, from frozen, glazed
73102243	Carrots, cooked, from canned, glazed
73305010	Squash, winter, baked with cheese
74203010	Tomatoes, NS as to form, scalloped
74203011	Tomatoes, from fresh, scalloped
75213000	Cabbage, savoy, cooked, NS as to fat added in cooking
75216070	Corn, dried, cooked
75217000	Eggplant, cooked, NS as to fat added in cooking
75217020	Eggplant, cooked, fat added in cooking
75217490	Hominy, cooked, NS as to fat added in cooking
75217520	Hominy, cooked, fat added in cooking
75414020	Mushrooms, stuffed
75418060	Squash, summer, souffle
91361020	Fruit sauce
91361030	Raisin sauce
91361040	Plain dessert sauce

Mixed Foods Containing Margarine and Margarine-Like Spreads (Adjusted for margarine and margarine-like spread content of ~0.4 to 4%) [Sucrose Fatty Acid Esters] = ~0.30 to 0.29%

13170000	Baked Alaska
13210110	Pudding, bread
13210150	Puerto Rican bread pudding made with evaporated milk and rum (Budin de pan)
13210750	Pudding, pumpkin
14630300	Welsh rarebit
26100120	Fish, NS as to type, baked or broiled
26103110	Barracuda, cooked, NS as to cooking method
26103120	Barracuda, baked or broiled
26105120	Carp, baked or broiled
26107120	Catfish, baked or broiled
26109120	Cod, baked or broiled
26115110	Flounder, cooked, NS as to cooking method
26115120	Flounder, baked or broiled
26117110	Haddock, cooked, NS as to cooking method
26117120	Haddock, baked or broiled
26119120	Herring, baked or broiled
26121110	Mackerel, cooked, NS as to cooking method

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26121120	Mackerel, baked or broiled
26123120	Mullet, baked or broiled
26125110	Ocean perch, cooked, NS as to cooking method
26125120	Ocean perch, baked or broiled
26125130	Ocean perch, breaded or battered, baked
26127120	Perch, baked or broiled
26127130	Perch, breaded or battered, baked
26129120	Pike, baked or broiled
26131110	Pompano, cooked, NS as to cooking method
26131120	Pompano, baked or broiled
26135110	Ray, cooked, NS as to cooking method
26135120	Ray, baked or broiled
26137120	Salmon, baked or broiled
26141110	Sea bass, cooked, NS as to cooking method
26141120	Sea bass, baked or broiled
26141130	Sea bass, breaded or battered, baked
26143110	Shark, cooked, NS as to cooking method
26143120	Shark, baked or broiled
26145120	Smelt, baked or broiled
26149110	Swordfish, cooked, NS as to cooking method
26149120	Swordfish, baked or broiled
26151110	Trout, cooked, NS as to cooking method
26151120	Trout, baked or broiled
26153110	Tuna, fresh, cooked, NS as to cooking method
26153120	Tuna, fresh, baked or broiled
26157110	Whiting, cooked, NS as to cooking method
26157120	Whiting, baked or broiled
26207110	Roe, shad, cooked
26213120	Squid, baked, broiled
26301110	Abalone, cooked, NS as to cooking method
26317120	Scallops, baked or broiled
26317130	Scallops, steamed or boiled
26319120	Shrimp, baked or broiled
27120120	Sausage gravy
27135030	Veal with cream sauce (mixture)
27150310	Fish with tomato-based sauce (mixture)
27211190	Beef and potatoes with cream or white sauce (mixture)
27211500	Beef and potatoes with cheese sauce (mixture)
27212000	Beef and noodles, no sauce (mixture)
27213000	Beef and rice, no sauce (mixture)
27213400	Beef and rice with (mushroom) soup (mixture)
27214300	Beef wellington
27220020	Ham and noodles with cream or white sauce (mixture)
27220030	Ham and rice with (mushroom) soup (mixture)
27220210	Ham and noodles, no sauce (mixture)
27220310	Ham or pork and rice, no sauce (mixture)
27220520	Ham or pork and potatoes with cheese sauce (mixture)
27242300	Chicken or turkey and noodles with cream or white sauce (mixture)
27242350	Chicken or turkey tetrazzini
27242400	Chicken or turkey and noodles, tomato-based sauce (mixture)
27243300	Chicken or turkey and rice with cream sauce (mixture)
27250020	Clams, stuffed
27250080	Salmon loaf
27250110	Scallops and noodles with cheese sauce (mixture)
27250130	Shrimp and noodles with cheese sauce (mixture)
27250150	Tuna loaf

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27250210	Clam cake or patty
27250220	Oyster fritter
27250250	Flounder with crab stuffing
27250270	Clams Casino
27250410	Shrimp with crab stuffing
27250630	Tuna noodle casserole with (mushroom) soup
27250710	Tuna and rice with (mushroom) soup (mixture)
27250810	Fish and rice with tomato-based sauce
27250830	Fish and rice with (mushroom) soup
27250900	Fish and noodles with (mushroom) soup
27250950	Shellfish mixture and noodles, tomato-based sauce (mixture)
27313110	Beef chow mein or chop suey with noodles
27320030	Ham or pork, noodles and vegetables (excluding carrots, broccoli, and dark-green leafy
27320040	Pork, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy
27320070	Ham or pork, noodles, and vegetables (including carrots, broccoli, and/or dark-green leafy
27320100	Pork, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy
27320110	Pork, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy
27320120	Sausage, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy
27320130	Sausage, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy
27320140	Pork, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy
27320150	Pork, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy
27320210	Pork, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy
27320340	Pork, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy)
27320350	Pork, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy),
27330050	Lamb or mutton, rice, and vegetables (excluding carrots, broccoli, and dark-green
27330060	Lamb or mutton, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy
27343950	Chicken or turkey, noodles, and vegetables (including carrots, broccoli, and/or dark-green leafy
27343960	Chicken or turkey, noodles, and vegetables (excluding carrots, broccoli, and dark-green leafy
27345440	Chicken or turkey, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy
27345450	Chicken or turkey, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy
27347200	Chicken or turkey, stuffing, and vegetables (including carrots, broccoli, and/or dark-green leafy
27347210	Chicken or turkey, stuffing, and vegetables (excluding carrots, broccoli, and dark-green leafy
27347220	Chicken or turkey, stuffing, and vegetables (including carrots, broccoli, and/or dark-green leafy
27347230	Chicken or turkey, stuffing, and vegetables (excluding carrots, broccoli, and dark-green leafy
27350040	Shad creole, with rice
27350060	Shrimp creole, with rice
27350410	Tuna noodle casserole with vegetables and (mushroom) soup
27360080	Chow mein or chop suey, NS as to type of meat, with noodles
27360120	Chow mein or chop suey, various types of meat, with noodles
27410210	Beef and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes
27410220	Beef and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes
27443150	Chicken or turkey divan
27446400	Chicken or turkey and vegetables (including carrots, broccoli, and/or dark-green leafy
27446410	Chicken or turkey and vegetables (excluding carrots, broccoli, and dark-green leafy
27450450	Shrimp creole, no rice
27450510	Tuna casserole with vegetables and (mushroom) soup, no noodles
27450650	Shellfish mixture and vegetables (including carrots, broccoli, and/or dark-green leafy
27450660	Shellfish mixture and vegetables (excluding carrots, broccoli, and dark-green leafy

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27450700	Fish and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes
27450710	Fish and vegetables (excluding carrots, broccoli, and dark- green leafy (no potatoes
27460100	Lau lau (pork and fish wrapped in taro or spinach leaves)
27510260	Cheeseburger, 1/4 lb meat, with mushrooms in sauce, on bun
27510480	Cheeseburger (hamburger with cheese sauce), 1/4 lb meat, with grilled onions, on
27520310	Ham sandwich with lettuce and spread
27520320	Ham and cheese sandwich, with lettuce and spread
27520350	Ham and cheese sandwich, with spread, grilled
27520360	Ham and cheese sandwich, on bun, with lettuce and spread
27520420	Midnight sandwich, (Media noche), with spread
27550110	Crab cake sandwich, on bun
27560120	Bologna and cheese sandwich, with spread
28340590	Chicken corn soup, home recipe
28355250	Lobster bisque
28355260	Lobster gumbo
28355440	Shrimp gumbo
31105000	Egg, whole, fried
32101500	Egg, Benedict
32104900	Egg omelet or scrambled egg, NS as to fat added in cooking
32105000	Egg omelet or scrambled egg, fat added in cooking
32105010	Egg omelet or scrambled egg, with cheese
32105020	Egg omelet or scrambled egg, with fish
32105030	Egg omelet or scrambled egg, with ham or bacon
32105040	Egg omelet or scrambled egg, with dark-green vegetables
32105050	Egg omelet or scrambled egg, with vegetables other than dark-green vegetables
32105060	Egg omelet or scrambled egg, with peppers, onion, and ham
32105070	Egg omelet or scrambled egg, with mushrooms
32105080	Egg omelet or scrambled egg, with cheese and ham or bacon
32105085	Egg omelet or scrambled egg, with cheese, ham or bacon, and tomatoes
32105100	Egg omelet or scrambled egg, with potatoes and/or onions (Tortilla Espanola, traditional style Spanish omelet)
32105110	Egg omelet or scrambled egg, with beef
32105120	Egg omelet or scrambled egg, with sausage and mushrooms
32105121	Egg omelet or scrambled egg, with sausage and cheese
32105122	Egg omelet or scrambled egg, with sausage
32105150	Egg omelet or scrambled egg, with chili, cheese, tomatoes, and beans
32105160	Egg omelet or scrambled egg, with chorizo
32105170	Egg omelet or scrambled egg with chicken
32202030	Egg, cheese, and sausage on English muffin
32202050	Egg, cheese, and sausage on biscuit
32202130	Egg and steak on biscuit
33000100	Egg substitute, NS as to powdered, frozen, or liquid
33201010	Scrambled egg, made from cholesterol-free frozen mixture
33201110	Scrambled egg, made from cholesterol-free frozen mixture with cheese
33201500	Scrambled egg, made from cholesterol-free frozen mixture with vegetables
33202010	Scrambled egg, made from frozen mixture
33301010	Scrambled egg, made from packaged liquid mixture
41108010	Mung beans, fat added in cooking
41108020	Mung beans, NS as to fat added in cooking
41304980	Lentils, dry, cooked, NS as to fat added in cooking
41304990	Lentils, dry, cooked, fat added in cooking
42116100	Walnuts, honey-roasted
52220110	Cornmeal bread, Dominican style (Arepa Dominicana)
55105100	Pancakes, cornmeal
56201550	Cornmeal dumpling
56205090	Rice, cream of, cooked, fat added in cooking

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56205130	Yellow rice, cooked, regular, NS as to fat added in cooking
56205170	Yellow rice, cooked, regular, fat added in cooking
56205320	Rice, white and wild, cooked, fat added in cooking
56205330	Rice, white and wild, cooked, NS as to fat added in cooking
56205340	Rice, brown and wild, cooked, fat added in cooking
56205350	Rice, brown and wild, cooked, NS as to fat added in cooking
58108000	Calzone, with cheese, meatless
58115150	Tamal in a leaf, Puerto Rican style (Tamales en hoja)
58120110	Crepes, filled with meat, fish, or poultry, with sauce
58121610	Dumpling, potato- or cheese-filled
58124500	Pastry, filled with potatoes and peas, fried
58155320	Seafood paella, Puerto Rican style (Paella a la marinera)
58157110	Spicey rice pudding, Puerto Rican style (arroz con dulce, arroz con especie)
58160120	Rice with beans and tomatoes
58160130	Rice with beans and chicken
58160140	Rice with beans and pork
58161300	White rice with tomato sauce
58161310	Rice, brown, with tomato sauce
58162130	Stuffed tomato, with rice and meat
58162140	Stuffed tomato, with rice, meatless
58162310	Rice pilaf
58163310	Flavored rice mixture
58163330	Flavored rice mixture with cheese
58163360	Flavored rice, brown and wild
58163510	Rice dressing
61113500	Lemon pie filling
63113030	Cherry pie filling
71101100	White potato, baked, peel eaten, NS as to fat added in cooking
71101120	White potato, baked, peel eaten, fat added in cooking
71103000	White potato, boiled, without peel, NS as to fat added in cooking
71103020	White potato, boiled, without peel, fat added in cooking
71103100	White potato, boiled, with peel, NS as to fat added in cooking
71103120	White potato, boiled, with peel, fat added in cooking
71103200	White potato, boiled, without peel, canned, low sodium, NS as to fat added in cooking
71103220	White potato, boiled, without peel, canned, low sodium, fat added in cooking
71104000	White potato, roasted, NS as to fat added in cooking
71104020	White potato, roasted, fat added in cooking
71301000	White potato, cooked, with sauce, NS as to sauce
71301020	White potato, cooked, with cheese
71305010	White potato, scalloped
71305110	White potato, scalloped, with ham
71403500	White potato, home fries, with green or red peppers and onions
71501000	White potato, mashed, NFS
71501020	White potato, from fresh, mashed, made with milk and fat
71501050	White potato, from fresh, mashed, made with milk, fat and cheese
71501070	White potato, from dry, mashed, made with milk, fat, egg and cheese
71503010	White potato, patty
71507000	White potato, stuffed, baked, peel not eaten, NS as to topping
71507005	White potato, stuffed, baked, peel not eaten, stuffed with butter or margarine
71507010	White potato, stuffed, baked, peel not eaten, stuffed with sour cream
71507020	White potato, stuffed, baked, peel not eaten, stuffed with cheese
71507030	White potato, stuffed, baked, peel not eaten, stuffed with chili
71507040	White potato, stuffed, baked, peel not eaten, stuffed with broccoli and cheese sa
71507050	White potato, stuffed, baked, peel not eaten, stuffed with meat in cream sauce
71507100	White potato, stuffed, baked, peel not eaten, stuffed with chicken, broccoli and
71508000	White potato, stuffed, baked, peel eaten, NS as to topping

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71508005	White potato, stuffed, baked, peel eaten, stuffed with butter or margarine
71508010	White potato, stuffed, baked, peel eaten, stuffed with sour cream
71508020	White potato, stuffed, baked, peel eaten, stuffed with cheese
71508030	White potato, stuffed, baked, peel eaten, stuffed with chili
71508040	White potato, stuffed, baked, peel eaten, stuffed with broccoli and cheese sauce
71508050	White potato, stuffed, baked, peel eaten, stuffed with meat in cream sauce
71508060	White potato, stuffed, baked, peel eaten, stuffed with bacon and cheese
71508070	White potato, stuffed, baked, peel not eaten, stuffed with bacon and cheese
71508100	White potato, stuffed, baked, peel eaten, stuffed with chicken, broccoli and chee
71702000	Potato pudding
71803010	Potato chowder
71930090	Cassava (yuca blanca), cooked, NS as to fat added in cooking
71930120	Cassava (yuca blanca), cooked, fat added in cooking
71941130	Sweetpotatoes, Puerto Rican, roasted or baked
71945020	Yam buns, Puerto Rican style (Bunuelos de name)
72101200	Beet greens, cooked, NS as to fat added in cooking
72101220	Beet greens, cooked, fat added in cooking
72104200	Chard, cooked, NS as to fat added in cooking
72104220	Chard, cooked, fat added in cooking
72107200	Collards, cooked, NS as to form, NS as to fat added in cooking
72107201	Collards, cooked, from fresh, NS as to fat added in cooking
72107202	Collards, cooked, from frozen, NS as to fat added in cooking
72107203	Collards, cooked, from canned, NS as to fat added in cooking
72107220	Collards, cooked, NS as to form, fat added in cooking
72107221	Collards, cooked, from fresh, fat added in cooking
72107222	Collards, cooked, from frozen, fat added in cooking
72107223	Collards, cooked, from canned, fat added in cooking
72110200	Cress, cooked, NS as to form, NS as to fat added in cooking
72110201	Cress, cooked, from fresh, NS as to fat added in cooking
72110203	Cress, cooked, from canned, NS as to fat added in cooking
72110220	Cress, cooked, NS as to form, fat added in cooking
72110221	Cress, cooked, from fresh, fat added in cooking
72110223	Cress, cooked, from canned, fat added in cooking
72113200	Dandelion greens, cooked, NS as to fat added in cooking
72113220	Dandelion greens, cooked, fat added in cooking
72116200	Escarole, cooked, NS as to fat added in cooking
72116220	Escarole, cooked, fat added in cooking
72118200	Greens, cooked, NS as to form, NS as to fat added in cooking
72118201	Greens, cooked, from fresh, NS as to fat added in cooking
72118202	Greens, cooked, from frozen, NS as to fat added in cooking
72118203	Greens, cooked, from canned, NS as to fat added in cooking
72118220	Greens, cooked, NS as to form, fat added in cooking
72118221	Greens, cooked, from fresh, fat added in cooking
72118222	Greens, cooked, from frozen, fat added in cooking
72118223	Greens, cooked, from canned, fat added in cooking
72119200	Kale, cooked, NS as to form, NS as to fat added in cooking
72119201	Kale, cooked, from fresh, NS as to fat added in cooking
72119202	Kale, cooked, from frozen, NS as to fat added in cooking
72119203	Kale, cooked, from canned, NS as to fat added in cooking
72119220	Kale, cooked, NS as to form, fat added in cooking
72119221	Kale, cooked, from fresh, fat added in cooking
72119222	Kale, cooked, from frozen, fat added in cooking
72119223	Kale, cooked, from canned, fat added in cooking
72120200	Lambsquarter, cooked, NS as to fat added in cooking
72120220	Lambsquarter, cooked, fat added in cooking
72122200	Mustard greens, cooked, NS as to form, NS as to fat added in cooking

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72122201	Mustard greens, cooked, from fresh, NS as to fat added in cooking
72122202	Mustard greens, cooked, from frozen, NS as to fat added in cooking
72122203	Mustard greens, cooked, from canned, NS as to fat added in cooking
72122220	Mustard greens, cooked, NS as to form, fat added in cooking
72122221	Mustard greens, cooked, from fresh, fat added in cooking
72122222	Mustard greens, cooked, from frozen, fat added in cooking
72122223	Mustard greens, cooked, from canned, fat added in cooking
72123000	Poke greens, cooked, NS as to fat added in cooking
72123020	Poke greens, cooked, fat added in cooking
72125200	Spinach, cooked, NS as to form, NS as to fat added in cooking
72125201	Spinach, cooked, from fresh, NS as to fat added in cooking
72125202	Spinach, cooked, from frozen, NS as to fat added in cooking
72125203	Spinach, cooked, from canned, NS as to fat added in cooking
72125220	Spinach, cooked, NS as to form, fat added in cooking
72125221	Spinach, cooked, from fresh, fat added in cooking
72125222	Spinach, cooked, from frozen, fat added in cooking
72125223	Spinach, cooked, from canned, fat added in cooking
72128200	Turnip greens, cooked, NS as to form, NS as to fat added in cooking
72128201	Turnip greens, cooked, from fresh, NS as to fat added in cooking
72128202	Turnip greens, cooked, from frozen, NS as to fat added in cooking
72128203	Turnip greens, cooked, from canned, NS as to fat added in cooking
72128220	Turnip greens, cooked, NS as to form, fat added in cooking
72128221	Turnip greens, cooked, from fresh, fat added in cooking
72128222	Turnip greens, cooked, from frozen, fat added in cooking
72128223	Turnip greens, cooked, from canned, fat added in cooking
72128400	Turnip greens with roots, cooked, NS as to form, NS as to fat added in cooking
72128401	Turnip greens with roots, cooked, from fresh, NS as to fat added in cooking
72128402	Turnip greens with roots, cooked, from frozen, NS as to fat added in cooking
72128403	Turnip greens with roots, cooked, from canned, NS as to fat added in cooking
72128420	Turnip greens with roots, cooked, NS as to form, fat added in cooking
72128421	Turnip greens with roots, cooked, from fresh, fat added in cooking
72128422	Turnip greens with roots, cooked, from frozen, fat added in cooking
72128423	Turnip greens with roots, cooked, from canned, fat added in cooking
72128500	Turnip greens, canned, low sodium, cooked, NS as to fat added in cooking
72128520	Turnip greens, canned, low sodium, cooked, fat added in cooking
72201200	Broccoli, cooked, NS as to form, NS as to fat added in cooking
72201201	Broccoli, cooked, from fresh, NS as to fat added in cooking
72201202	Broccoli, cooked, from frozen, NS as to fat added in cooking
72201220	Broccoli, cooked, NS as to form, fat added in cooking
72201221	Broccoli, cooked, from fresh, fat added in cooking
72201222	Broccoli, cooked, from frozen, fat added in cooking
72202010	Broccoli casserole (broccoli, noodles, and cream sauce)
72202020	Broccoli casserole (broccoli, rice, cheese, and mushroom sauce)
73102200	Carrots, cooked, NS as to form, NS as to fat added in cooking
73102201	Carrots, cooked, from fresh, NS as to fat added in cooking
73102202	Carrots, cooked, from frozen, NS as to fat added in cooking
73102203	Carrots, cooked, from canned, NS as to fat added in cooking
73102220	Carrots, cooked, NS as to form, fat added in cooking
73102221	Carrots, cooked, from fresh, fat added in cooking
73102222	Carrots, cooked, from frozen, fat added in cooking
73102223	Carrots, cooked, from canned, fat added in cooking
73103000	Carrots, canned, low sodium, NS as to fat added in cooking
73103020	Carrots, canned, low sodium, fat added in cooking
73111200	Peas and carrots, cooked, NS as to form, NS as to fat added in cooking
73111201	Peas and carrots, cooked, from fresh, NS as to fat added in cooking
73111202	Peas and carrots, cooked, from frozen, NS as to fat added in cooking

73111203	Peas and carrots, cooked, from canned, NS as to fat added in cooking
73111220	Peas and carrots, cooked, NS as to form, fat added in cooking
73111221	Peas and carrots, cooked, from fresh, fat added in cooking
73111222	Peas and carrots, cooked, from frozen, fat added in cooking
73111223	Peas and carrots, cooked, from canned, fat added in cooking
73111250	Peas and carrots, canned, low sodium, NS as to fat added in cooking
73111260	Peas and carrots, canned, low sodium, fat added in cooking
73201000	Pumpkin, cooked, NS as to form, NS as to fat added in cooking
73201001	Pumpkin, cooked, from fresh, NS as to fat added in cooking
73201002	Pumpkin, cooked, from frozen, NS as to fat added in cooking
73201003	Pumpkin, cooked, from canned, NS as to fat added in cooking
73201020	Pumpkin, cooked, NS as to form, fat added in cooking
73201021	Pumpkin, cooked, from fresh, fat added in cooking
73201022	Pumpkin, cooked, from frozen, fat added in cooking
73201023	Pumpkin, cooked, from canned, fat added in cooking
73211110	Sweetpotato and pumpkin casserole, Puerto Rican style
73301000	Squash, winter type, mashed, NS as to fat or sugar added in cooking
73301020	Squash, winter type, mashed, fat added in cooking, no sugar added in cooking
73301030	Squash, winter type, mashed, fat and sugar added in cooking
73303000	Squash, winter type, baked, NS as to fat or sugar added in cooking
73303020	Squash, winter type, baked, fat added in cooking, no sugar added in cooking
73303030	Squash, winter type, baked, fat and sugar added in cooking
73401000	Sweetpotato, NFS
73402000	Sweetpotato, baked, peel eaten, NS as to fat added in cooking
73402020	Sweetpotato, baked, peel eaten, fat added in cooking
73403000	Sweetpotato, baked, peel not eaten, NS as to fat added in cooking
73403020	Sweetpotato, baked, peel not eaten, fat added in cooking
73405000	Sweetpotato, boiled, without peel, NS as to fat added in cooking
73405020	Sweetpotato, boiled, without peel, fat added in cooking
73405100	Sweetpotato, boiled, with peel, NS as to fat added in cooking
73405120	Sweetpotato, boiled, with peel, fat added in cooking
73406000	Sweetpotato, candied
73407030	Sweetpotato, canned in syrup, with fat added in cooking
73409000	Sweetpotato, casserole or mashed
74204011	Tomatoes, from fresh, stewed
74504000	Tomato and okra, cooked, NS as to fat added in cooking
74504020	Tomato and okra, cooked, fat added in cooking
74504100	Tomato and onion, cooked, NS as to fat added in cooking
74504120	Tomato and onion, cooked, fat added in cooking
74505000	Tomato with corn and okra, cooked, NS as to fat added in cooking
74505020	Tomato with corn and okra, cooked, fat added in cooking
75200120	Vegetables, NS as to type, cooked, fat added in cooking
75201000	Artichoke, globe (French), cooked, NS as to form, NS as to fat added in cooking
75201001	Artichoke, globe (French), cooked, from fresh, NS as to fat added in cooking
75201002	Artichoke, globe (French), cooked, from frozen, NS as to fat added in cooking
75201003	Artichoke, globe (French), cooked, from canned, NS as to fat added in cooking
75201020	Artichoke, globe (French), cooked, NS as to form, fat added in cooking
75201021	Artichoke, globe (French), cooked, from fresh, fat added in cooking
75201022	Artichoke, globe (French), cooked, from frozen, fat added in cooking
75201023	Artichoke, globe (French), cooked, from canned, fat added in cooking
75202000	Asparagus, cooked, NS as to form, NS as to fat added in cooking
75202001	Asparagus, cooked, from fresh, NS as to fat added in cooking
75202002	Asparagus, cooked, from frozen, NS as to fat added in cooking
75202003	Asparagus, cooked, from canned, NS as to fat added in cooking
75202020	Asparagus, cooked, NS as to form, fat added in cooking
75202021	Asparagus, cooked, from fresh, fat added in cooking

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75202022	Asparagus, cooked, from frozen, fat added in cooking
75202023	Asparagus, cooked, from canned, fat added in cooking
75203020	Bamboo shoots, cooked, fat added in cooking
75204000	Beans, lima, immature, cooked, NS as to form, NS as to fat added in cooking
75204001	Beans, lima, immature, cooked, from fresh, NS as to fat added in cooking
75204002	Beans, lima, immature, cooked, from frozen, NS as to fat added in cooking
75204003	Beans, lima, immature, cooked, from canned, NS as to fat added in cooking
75204020	Beans, lima, immature, cooked, NS as to form, fat added in cooking
75204021	Beans, lima, immature, cooked, from fresh, fat added in cooking
75204022	Beans, lima, immature, cooked, from frozen, fat added in cooking
75204023	Beans, lima, immature, cooked, from canned, fat added in cooking
75204100	Beans, lima, immature, canned, low sodium, NS as to fat added in cooking
75204120	Beans, lima, immature, canned, low sodium, fat added in cooking
75204980	Beans, string, cooked, NS as to form, NS as to color, fat added in cooking
75204981	Beans, string, cooked, from fresh, NS as to color, fat added in cooking
75204982	Beans, string, cooked, from frozen, NS as to color, fat added in cooking
75204983	Beans, string, cooked, from canned, NS as to color, fat added in cooking
75205000	Beans, string, cooked, NS as to form, NS as to color, NS as to fat added in cooking
75205001	Beans, string, cooked, from fresh, NS as to color, NS as to fat added in cooking
75205002	Beans, string, cooked, from frozen, NS as to color, NS as to fat added in cooking
75205003	Beans, string, cooked, from canned, NS as to color, NS as to fat added in cooking
75205010	Beans, string, green, cooked, NS as to form, NS as to fat added in cooking
75205011	Beans, string, green, cooked, from fresh, NS as to fat added in cooking
75205012	Beans, string, green, cooked, from frozen, NS as to fat added in cooking
75205013	Beans, string, green, cooked, from canned, NS as to fat added in cooking
75205030	Beans, string, green, cooked, NS as to form, fat added in cooking
75205031	Beans, string, green, cooked, from fresh, fat added in cooking
75205032	Beans, string, green, cooked, from frozen, fat added in cooking
75205033	Beans, string, green, cooked, from canned, fat added in cooking
75205110	Beans, string, green, canned, low sodium, NS as to fat added in cooking
75205130	Beans, string, green, canned, low sodium, fat added in cooking
75206000	Beans, string, yellow, cooked, NS as to form, NS as to fat added in cooking
75206001	Beans, string, yellow, cooked, from fresh, NS as to fat added in cooking
75206002	Beans, string, yellow, cooked, from frozen, NS as to fat added in cooking
75206003	Beans, string, yellow, cooked, from canned, NS as to fat added in cooking
75206020	Beans, string, yellow, cooked, NS as to form, fat added in cooking
75206021	Beans, string, yellow, cooked, from fresh, fat added in cooking
75206022	Beans, string, yellow, cooked, from frozen, fat added in cooking
75206023	Beans, string, yellow, cooked, from canned, fat added in cooking
75207000	Bean sprouts, cooked, NS as to form, NS as to fat added in cooking
75207001	Bean sprouts, cooked, from fresh, NS as to fat added in cooking
75207003	Bean sprouts, cooked, from canned, NS as to fat added in cooking
75207020	Bean sprouts, cooked, NS as to form, fat added in cooking
75207021	Bean sprouts, cooked, from fresh, fat added in cooking
75207023	Bean sprouts, cooked, from canned, fat added in cooking
75208000	Beets, cooked, NS as to form, NS as to fat added in cooking
75208001	Beets, cooked, from fresh, NS as to fat added in cooking
75208002	Beets, cooked, from frozen, NS as to fat added in cooking
75208003	Beets, cooked, from canned, NS as to fat added in cooking
75208020	Beets, cooked, NS as to form, fat added in cooking
75208021	Beets, cooked, from fresh, fat added in cooking
75208022	Beets, cooked, from frozen, fat added in cooking
75208023	Beets, cooked, from canned, fat added in cooking
75208100	Beets, canned, low sodium, NS as to fat added in cooking
75208120	Beets, canned, low sodium, fat added in cooking
75208290	Bitter melon, cooked, NS as to fat added in cooking

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75208310	Bitter melon, cooked, fat added in cooking
75208700	Broccoflower, cooked, NS as to fat added in cooking
75208720	Broccoflower, cooked, fat added in cooking
75209000	Brussels sprouts, cooked, NS as to form, NS as to fat added in cooking
75209001	Brussels sprouts, cooked, from fresh, NS as to fat added in cooking
75209002	Brussels sprouts, cooked, from frozen, NS as to fat added in cooking
75209020	Brussels sprouts, cooked, NS as to form, fat added in cooking
75209021	Brussels sprouts, cooked, from fresh, fat added in cooking
75209022	Brussels sprouts, cooked, from frozen, fat added in cooking
75210000	Cabbage, Chinese, cooked, NS as to fat added in cooking
75210020	Cabbage, Chinese, cooked, fat added in cooking
75211010	Cabbage, green, cooked, NS as to fat added in cooking
75211030	Cabbage, green, cooked, fat added in cooking
75212000	Cabbage, red, cooked, NS as to fat added in cooking
75212020	Cabbage, red, cooked, fat added in cooking
75213020	Cabbage, savoy, cooked, fat added in cooking
75213100	Cactus, cooked, NS as to fat added in cooking
75213120	Cactus, cooked, fat added in cooking
75214000	Cauliflower, cooked, NS as to form, NS as to fat added in cooking
75214001	Cauliflower, cooked, from fresh, NS as to fat added in cooking
75214002	Cauliflower, cooked, from frozen, NS as to fat added in cooking
75214003	Cauliflower, cooked, from canned, NS as to fat added in cooking
75214020	Cauliflower, cooked, NS as to form, fat added in cooking
75214021	Cauliflower, cooked, from fresh, fat added in cooking
75214022	Cauliflower, cooked, from frozen, fat added in cooking
75214023	Cauliflower, cooked, from canned, fat added in cooking
75215000	Celery, cooked, NS as to fat added in cooking
75215020	Celery, cooked, fat added in cooking
75216000	Corn, cooked, NS as to form, NS as to color, NS as to fat added in cooking
75216001	Corn, cooked, from fresh, NS as to color, NS as to fat added in cooking
75216002	Corn, cooked, from frozen, NS as to color, NS as to fat added in cooking
75216003	Corn, cooked, from canned, NS as to color, NS as to fat added in cooking
75216020	Corn, cooked, NS as to form, NS as to color, fat added in cooking
75216021	Corn, cooked, from fresh, NS as to color, fat added in cooking
75216022	Corn, cooked, from frozen, NS as to color, fat added in cooking
75216023	Corn, cooked, from canned, NS as to color, fat added in cooking
75216100	Corn, yellow, cooked, NS as to form, NS as to fat added in cooking
75216101	Corn, yellow, cooked, from fresh, NS as to fat added in cooking
75216102	Corn, yellow, cooked, from frozen, NS as to fat added in cooking
75216103	Corn, yellow, cooked, from canned, NS as to fat added in cooking
75216120	Corn, yellow, cooked, NS as to form, fat added in cooking
75216121	Corn, yellow, cooked, from fresh, fat added in cooking
75216122	Corn, yellow, cooked, from frozen, fat added in cooking
75216123	Corn, yellow, cooked, from canned, fat added in cooking
75216160	Corn, yellow and white, cooked, NS as to form, NS as to fat added in cooking
75216161	Corn, yellow and white, cooked, from fresh, NS as to fat added in cooking
75216162	Corn, yellow and white, cooked, from frozen, NS as to fat added in cooking
75216163	Corn, yellow and white, cooked, from canned, NS as to fat added in cooking
75216180	Corn, yellow and white, cooked, NS as to form, fat added in cooking
75216181	Corn, yellow and white, cooked, from fresh, fat added in cooking
75216182	Corn, yellow and white, cooked, from frozen, fat added in cooking
75216183	Corn, yellow and white, cooked, from canned, fat added in cooking
75216190	Corn, yellow, NS as to form, cream style, fat added in cooking
75216193	Corn, yellow, from canned, cream style, fat added in cooking
75216200	Corn, white, cooked, NS as to form, NS as to fat added in cooking
75216201	Corn, white, cooked, from fresh, NS as to fat added in cooking

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75216202	Corn, white, cooked, from frozen, NS as to fat added in cooking
75216203	Corn, white, cooked, from canned, NS as to fat added in cooking
75216220	Corn, white, cooked, NS as to form, fat added in cooking
75216221	Corn, white, cooked, from fresh, fat added in cooking
75216222	Corn, white, cooked, from frozen, fat added in cooking
75216223	Corn, white, cooked, from canned, fat added in cooking
75216300	Corn, yellow, canned, low sodium, NS as to fat added in cooking
75216320	Corn, yellow, canned, low sodium, fat added in cooking
75216700	Cucumber, cooked, NS as to fat added in cooking
75216720	Cucumber, cooked, fat added in cooking
75218400	Leek, cooked, NS as to fat added in cooking
75219000	Mushrooms, cooked, NS as to form, NS as to fat added in cooking
75219001	Mushrooms, cooked, from fresh, NS as to fat added in cooking
75219002	Mushrooms, cooked, from frozen, NS as to fat added in cooking
75219003	Mushrooms, cooked, from canned, NS as to fat added in cooking
75219020	Mushrooms, cooked, NS as to form, fat added in cooking
75219021	Mushrooms, cooked, from fresh, fat added in cooking
75219022	Mushrooms, cooked, from frozen, fat added in cooking
75219023	Mushrooms, cooked, from canned, fat added in cooking
75220000	Okra, cooked, NS as to form, NS as to fat added in cooking
75220001	Okra, cooked, from fresh, NS as to fat added in cooking
75220002	Okra, cooked, from frozen, NS as to fat added in cooking
75220003	Okra, cooked, from canned, NS as to fat added in cooking
75220020	Okra, cooked, NS as to form, fat added in cooking
75220021	Okra, cooked, from fresh, fat added in cooking
75220022	Okra, cooked, from frozen, fat added in cooking
75220023	Okra, cooked, from canned, fat added in cooking
75221000	Onions, mature, cooked, NS as to form, NS as to fat added in cooking
75221001	Onions, mature, cooked, from fresh, NS as to fat added in cooking
75221002	Onions, mature, cooked, from frozen, NS as to fat added in cooking
75221020	Onions, mature, cooked or sauteed, NS as to form, fat added in cooking
75221021	Onions, mature, cooked or sauteed, from fresh, fat added in cooking
75221022	Onions, mature, cooked or sauteed, from frozen, fat added in cooking
75221040	Onion, young green, cooked, NS as to form, NS as to fat added in cooking
75221041	Onion, young green, cooked, from fresh, NS as to fat added in cooking
75221060	Onion, young green, cooked, NS as to form, fat added in cooking
75221061	Onion, young green, cooked, from fresh, fat added in cooking
75222000	Parsnips, cooked, NS as to fat added in cooking
75222020	Parsnips, cooked, fat added in cooking
75223000	Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, NS as to form, N
75223001	Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from fresh, NS a
75223002	Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from frozen, NS
75223003	Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from canned, NS
75223020	Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, NS as to form, f
75223021	Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from fresh, fat
75223022	Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from frozen, fat
75223023	Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from canned, fat
75224010	Peas, green, cooked, NS as to form, NS as to fat added in cooking
75224011	Peas, green, cooked, from fresh, NS as to fat added in cooking
75224012	Peas, green, cooked, from frozen, NS as to fat added in cooking
75224013	Peas, green, cooked, from canned, NS as to fat added in cooking
75224030	Peas, green, cooked, NS as to form, fat added in cooking
75224031	Peas, green, cooked, from fresh, fat added in cooking
75224032	Peas, green, cooked, from frozen, fat added in cooking
75224033	Peas, green, cooked, from canned, fat added in cooking
75224110	Peas, green, canned, low sodium, NS as to fat added in cooking

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75224130	Peas, green, canned, low sodium, fat added in cooking
75226000	Peppers, green, cooked, NS as to fat added in cooking
75226020	Peppers, green, cooked, fat added in cooking
75226060	Peppers, red, cooked, fat added in cooking
75227110	Radish, Japanese (daikon), cooked, fat added in cooking
75228000	Rutabaga, cooked, NS as to fat added in cooking
75228020	Rutabaga, cooked, fat added in cooking
75230020	Sauerkraut, cooked, fat added in cooking
75231000	Snowpea (pea pod), cooked, NS as to form, NS as to fat added in cooking
75231001	Snowpea (pea pod), cooked, from fresh, NS as to fat added in cooking
75231002	Snowpea (pea pod), cooked, from frozen, NS as to fat added in cooking
75231020	Snowpea (pea pod), cooked, NS as to form, fat added in cooking
75231021	Snowpea (pea pod), cooked, from fresh, fat added in cooking
75231022	Snowpea (pea pod), cooked, from frozen, fat added in cooking
75233000	Squash, summer, cooked, NS as to form, NS as to fat added in cooking
75233001	Squash, summer, cooked, from fresh, NS as to fat added in cooking
75233002	Squash, summer, cooked, from frozen, NS as to fat added in cooking
75233003	Squash, summer, cooked, from canned, NS as to fat added in cooking
75233020	Squash, summer, cooked, NS as to form, fat added in cooking
75233021	Squash, summer, cooked, from fresh, fat added in cooking
75233022	Squash, summer, cooked, from frozen, fat added in cooking
75233023	Squash, summer, cooked, from canned, fat added in cooking
75233200	Squash, spaghetti, cooked, NS as to fat added in cooking
75233210	Squash, spaghetti, cooked, fat added in cooking
75234000	Turnip, cooked, NS as to form, NS as to fat added in cooking
75234001	Turnip, cooked, from fresh, NS as to fat added in cooking
75234002	Turnip, cooked, from frozen, NS as to fat added in cooking
75234003	Turnip, cooked, from canned, NS as to fat added in cooking
75234020	Turnip, cooked, NS as to form, fat added in cooking
75234021	Turnip, cooked, from fresh, fat added in cooking
75234022	Turnip, cooked, from frozen, fat added in cooking
75234023	Turnip, cooked, from canned, fat added in cooking
75301100	Beans, lima and corn (succotash), cooked, NS as to fat added in cooking
75301120	Beans, lima and corn (succotash), cooked, fat added in cooking
75302200	Beans, green string, with onions, NS as to fat added in cooking
75302210	Beans, green string, with onions, fat added in cooking
75307000	Green peppers and onions, cooked, fat added in cooking
75311000	Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, NS a
75311002	Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, from
75311003	Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, from
75311020	Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, NS a
75311022	Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, from
75311023	Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, from
75311100	Mixed vegetables (corn, lima beans, peas, green beans, and carrots), canned, low
75311120	Mixed vegetables (corn, lima beans, peas, green beans, and carrots), canned, low
75315000	Peas and corn, cooked, NS as to fat added in cooking
75315020	Peas and corn, cooked, fat added in cooking
75315100	Peas and onions, cooked, NS as to fat added in cooking
75315120	Peas and onions, cooked, fat added in cooking
75316020	Squash, summer, and onions, cooked, fat added in cooking
75317000	Vegetables, stew type (including potatoes, carrots, onions, celery) cooked, NS as
75317010	Vegetables, stew type (including potatoes, carrots, onions, celery) cooked, fat a
75340000	Vegetable combinations, Oriental style, (broccoli, green pepper, water chestnut,
75340020	Vegetable combinations, Oriental style, (broccoli, green pepper, water chestnuts,
75340100	Vegetable combinations (broccoli, carrots, corn, cauliflower, etc.), cooked, NS a
75340120	Vegetable combinations (broccoli, carrots, corn, cauliflower, etc.), cooked, fat

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75340130	Vegetable combination (green beans, broccoli, onions, mushrooms), cooked, NS as t
75340150	Vegetable combination (green beans, broccoli, onions, mushrooms), cooked, fat add
75405010	Beets with Harvard sauce
75410530	Chiles rellenos, filled with meat and cheese (stuffed chili peppers)
75411010	Corn, scalloped or pudding
75411020	Corn fritter
75418020	Squash, summer, casserole with tomato and cheese
75418220	Creamed christophine, Puerto Rican style (Chayote a la crema)
75460800	Vegetable combinations (including carrots, broccoli, and/or dark-green leafy), co
75460810	Vegetable combinations (excluding carrots, broccoli, and dark-green leafy), cooke
75649110	Vegetable soup, home recipe
75649150	Vegetable noodle soup, home recipe
77316010	Stuffed cabbage, with meat, Puerto Rican style (Repollo relleno con carne)
77316600	Eggplant and meat casserole
91735000	Pralines

Fish Products

Surimi-Based Fish Products

[Sucrose Fatty Acid Esters] = 1.0%

27150250	Fish moochim (Korean style), dried fish with soy sauce
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Mixed Foods Containing Surimi-Based Fish Products

(Assuming surimi-based fish product content of ~5 to 8%)

[Sucrose Fatty Acid Esters] = ~0.05 to 0.08%

58106900	Pizza with seafood, NS as to type of crust
58106910	Pizza with seafood, thin crust
58106920	Pizza with seafood, thick crust

Fats and Oils

Fresh Fruits and Vegetables

Raw Fruits

[Sucrose Fatty Acid Esters] = 0.0056 to 0.0083%

62101100	Apple, dried, uncooked
62101150	Apple, dried, uncooked, low sodium
62101200	Apple, dried, cooked, NS as to sweetened or unsweetened; sweetened, NS as to type
62101220	Apple, dried, cooked, unsweetened
62116100	Peach, dried, uncooked
62116200	Peach, dried, cooked, NS as to sweetened or unsweetened; sweetened, NS as to type
62116220	Peach, dried, cooked, unsweetened
62116230	Peach, dried, cooked, with sugar
62119100	Pear, dried, uncooked
62119200	Pear, dried, cooked, NS as to sweetened or unsweetened; sweetened, NS as to type
62119220	Pear, dried, cooked, unsweetened
62119230	Pear, dried, cooked, with sugar
62121100	Plum, rock salt, dried
63101000	Apple, raw
63101310	Apple, baked, NS as to added sweetener
63101320	Apple, baked, unsweetened
63101330	Apple, baked, with sugar
63101420	Apple, pickled

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63101500	Apple, fried
63135010	Peach, raw
63135610	Peach, frozen, NS as to added sweetener
63135620	Peach, frozen, unsweetened
63135630	Peach, frozen, with sugar
63135660	Peach, spiced
63137010	Pear, raw
63137050	Pear, Japanese, raw
63143010	Plum, raw

Mixed Foods Containing Raw Fruits
(Adjusted for raw fruit content of ~8 to 89%)
[Sucrose Fatty Acid Esters] = ~0.0004 to 0.005%

53303000	Pie, blackberry, two crust
53303070	Pie, blackberry, individual size or tart
53303500	Pie, berry, not blackberry, blueberry, boysenberry, huckleberry, raspberry, or strawberry; two crust
53303510	Pie, berry, not blackberry, blueberry, boysenberry, huckleberry, raspberry, or strawberry; one crust
53303570	Pie, berry, not blackberry, blueberry, boysenberry, huckleberry, raspberry, or strawberry, individual size or tart
53304000	Pie, blueberry, two crust
53304050	Pie, blueberry, one crust
53304070	Pie, blueberry, individual size or tart
53307000	Pie, peach, two crust
53307050	Pie, peach, one crust
53307070	Pie, peach, individual size or tart
53307080	Pie, peach, fried pie
53307500	Pie, pear, two crust
53307570	Pie, pear, individual size or tart
53308300	Pie, plum, two crust
53310000	Pie, raspberry, one crust
53310050	Pie, raspberry, two crust
53347100	Pie, raspberry cream
53410850	Cobbler, pear
53415300	Crisp, blueberry
53415500	Crisp, peach
53440700	Strudel, peach
53440800	Strudel, cheese and fruit
55103000	Pancakes, with fruit
63101410	Apple rings, fried
63135650	Peach, pickled
63143650	Plum, pickled
63311000	Fruit cocktail or mix (excluding citrus fruits), raw
63311050	Fruit cocktail or mix (including citrus fruits), raw
63311080	Fruit cocktail or mix, frozen
63401010	Apple salad with dressing
63401015	Apple and grape salad w/ yogurt & walnuts
63401020	Apple and cabbage salad with dressing
63401030	Apple and fruit salad with dressing
63401060	Apple, candied
63402950	Fruit salad (excluding citrus fruits) with salad dressing or mayonnaise
63402960	Fruit salad (excluding citrus fruits) with cream
63402970	Fruit salad (excluding citrus fruits) with cream substitute
63402980	Fruit salad (excluding citrus fruits) with marshmallows

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63402990	Fruit salad (including citrus fruits) with pudding
63403000	Fruit salad (excluding citrus fruits) with pudding
63403020	Fruit salad (including citrus fruit) with cream
63412010	Pear salad with dressing
74402300	Salsa made with fruit
91501040	Gelatin dessert with fruit and whipped cream
91501110	Gelatin dessert with fruit and whipped topping
91511110	Gelatin dessert, dietetic, with fruit and whipped topping, sweetened with low cal

Frozen Dairy Desserts and Mixes

Ice Cream, Ice Milk, and Sherbet

[Sucrose Fatty Acid Esters] = 0.3%

13110000	Ice cream, NFS
13110100	Ice cream, regular, flavors other than chocolate
13110110	Ice cream, regular, chocolate
13110120	Ice cream, rich, flavors other than chocolate
13110130	Ice cream, rich, chocolate
13110140	Ice cream, rich, NS as to flavor
13110200	Ice cream, soft serve, flavors other than chocolate
13110210	Ice cream, soft serve, chocolate
13110220	Ice cream, soft serve, NS as to flavor
13120810	Ice cream soda, chocolate
13122100	Ice cream pie, no crust
13130300	Light ice cream, flavors other than chocolate (formerly ice milk)
13130310	Light ice cream, chocolate (formerly ice milk)
13130320	Light ice cream, no sugar added, NS as to flavor
13130330	Light ice cream, no sugar added, flavors other than chocolate
13130340	Light ice cream, no sugar added, chocolate
13130590	Light ice cream, soft serve, NS as to flavor (formerly ice milk)
13130600	Light ice cream, soft serve, flavors other than chocolate (formerly ice milk)
13130610	Light ice cream, soft serve, chocolate (formerly ice milk)
13130640	Light ice cream, soft serve cone, NS as to flavor (formerly ice milk)
13142000	Milk dessert bar or stick, frozen, with coconut
13150000	Sherbet, all flavors
13160420	Fat free ice cream, NS as to flavor
13140900	Light ice cream, fudgesicle (formerly ice milk)

Mixed Foods Containing Ice Cream, Ice Milk, and Sherbet

(Adjusted for ice cream, ice milk, or sherbet content of ~20 to 93%)

[Sucrose Fatty Acid Esters] = ~0.06 to 0.3%

13120100	Ice cream bar or stick, chocolate covered
13120110	Ice cream bar or stick, chocolate or caramel covered, with nuts
13120120	Ice cream bar or stick, rich chocolate ice cream, thick chocolate covering
13120121	Ice cream bar or stick, rich ice cream, thick chocolate covering
13120130	Ice cream bar or stick, rich ice cream, chocolate covered, with nuts
13120140	Ice cream bar or stick, chocolate ice cream, chocolate covered
13120300	Ice cream bar, cake covered
13120400	Ice cream bar or stick with fruit
13120500	Ice cream sandwich
13120550	Ice cream cookie sandwich
13120050	Ice cream bar or stick, not chocolate covered or cake covered
13120700	Ice cream cone with nuts, flavors other than chocolate
13120710	Ice cream cone, chocolate covered, with nuts, flavors other than chocolate

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13120720	Ice cream cone, chocolate covered or dipped, flavors other than chocolate
13120730	Ice cream cone, no topping, flavors other than chocolate
13120740	Ice cream cone, no topping, NS as to flavor
13120750	Ice cream cone with nuts, chocolate ice cream
13120760	Ice cream cone, chocolate covered or dipped, chocolate ice cream
13120770	Ice cream cone, no topping, chocolate ice cream
13120780	Ice cream cone, chocolate covered, with nuts, chocolate ice cream
13120790	Ice cream sundae cone
13120800	Ice cream soda, flavors other than chocolate
13121000	Ice cream sundae, NS as to topping, with whipped cream
13121100	Ice cream sundae, fruit topping, with whipped cream
13121200	Ice cream sundae, prepackaged type, flavors other than chocolate
13121300	Ice cream sundae, chocolate or fudge topping, with whipped cream
13121400	Ice cream sundae, not fruit or chocolate topping, with whipped cream
13121500	Ice cream sundae, fudge topping, with cake, with whipped cream
13122500	Ice cream pie, with cookie crust, fudge topping, and whipped cream
13126000	Ice cream, fried
13130100	Light ice cream, NFS (formerly ice milk)
13130620	Light ice cream, soft serve cone, flavors other than chocolate (formerly ice milk)
13130630	Light ice cream, soft serve cone, chocolate (formerly ice milk)
13135000	Light ice cream, sandwich (formerly ice milk)
13140100	Light ice cream, bar or stick, chocolate-coated (formerly ice milk)
13140110	Light ice cream, bar or stick, chocolate covered, with nuts (formerly ice milk)
13140450	Light ice cream, cone, NFS (formerly ice milk)
13140500	Light ice cream, cone, flavors other than chocolate (formerly ice milk)
13140550	Light ice cream, cone, chocolate (formerly ice milk)
13140600	Light ice cream, sundae, soft serve, chocolate or fudge topping, with whipped cream
13140630	Light ice cream, sundae, soft serve, fruit topping, with whipped cream (formerly ice milk)
13140650	Light ice cream, sundae, soft serve, not fruit or chocolate topping, with whipped cream
13140660	Light ice cream, sundae, soft serve, chocolate or fudge topping (without whipped cream)
13140670	Light ice cream, sundae, soft serve, fruit topping (without whipped cream) (formerly ice milk)
13140680	Light ice cream, sundae, soft serve, not fruit or chocolate topping (without whip)
13140700	Light ice cream, creamsicle or dreamsicle (formerly ice milk)
13161630	Light ice cream, bar or stick, with low-calorie sweetener, chocolate-coated (formerly ice milk)
13170000	Baked Alaska
53430300	Crepe, dessert type, ice cream-filled
92510730	Fruit punch, made with soda, fruit juice, and sherbet or ice cream

Milk Products

Dairy-Based Toppings

[Sucrose Fatty Acid Esters] = 2.0%

12130200	Cream, heavy, whipped, unsweetened
12140000	Cream, heavy, whipped, sweetened
12140100	Cream, whipped, pressurized container
12140110	Whipped topping, dairy based, fat free, pressurized container

Mixed Foods Containing Dairy-Based Toppings

(Adjusted for dairy-based topping content of ~5 to 19%)

[Sucrose Fatty Acid Esters] = ~0.1 to 0.37%

13121000	Ice cream sundae, NS as to topping, with whipped cream
13121100	Ice cream sundae, fruit topping, with whipped cream
13121300	Ice cream sundae, chocolate or fudge topping, with whipped cream
13121400	Ice cream sundae, not fruit or chocolate topping, with whipped cream

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13121500	Ice cream sundae, fudge topping, with cake, with whipped cream
13122500	Ice cream pie, with cookie crust, fudge topping, and whipped cream
13140600	Light ice cream, sundae, soft serve, chocolate or fudge topping, with whipped cream
13140630	Light ice cream, sundae, soft serve, fruit topping, with whipped cream (formerly
13140650	Light ice cream, sundae, soft serve, not fruit or chocolate topping, with whipped
13251000	Chantilly Cream
53341750	Pie, chess
53347100	Pie, raspberry cream
53348000	Pie, strawberry cream
53348070	Pie, strawberry cream, individual size or tart
53371100	Pie, chiffon, with liqueur
53373000	Pie, black bottom
53452420	Pastry, puff, custard or cream filled, iced or not iced
63402960	Fruit salad (excluding citrus fruits) with cream
63403020	Fruit salad (including citrus fruit) with cream
83105000	Fruit dressing, made with fruit juice and cream
91501030	Gelatin dessert with whipped cream
91501040	Gelatin dessert with fruit and whipped cream
91511110	Gelatin dessert, dietetic, with fruit and whipped topping, sweetened with low cal

Proposed Food-Uses

Breakfast Cereals

Ready-to-Eat Breakfast Cereals

[Sucrose Fatty Acid Esters] = 0.2%

57100100	Cereal, ready-to-eat, NFS
57100400	Character cereals, TV or movie, General Mills
57100500	Character cereals, TV or movie, Kelloggs
57101000	All-Bran
57101020	All-Bran with Extra Fiber
57102000	Alpen
57103000	Alpha-Bits
57103020	Alpha-bits with marshmallows
57103050	Amaranth Flakes
57103100	Apple Cinnamon Cheerios
57103500	Apple Cinnamon Squares Mini-Wheats, Kellogg's (formerly Apple Cinnamon Squares)
57104000	Apple Jacks
57106050	Banana Nut Crunch Cereal (Post)
57106100	Basic 4
57106250	Berry Berry Kix
57106260	Berry Burst Cheerios
57106530	Blueberry Morning, Post
57107000	Booberry
57110000	All-Bran Bran Buds, Kellogg's (formerly Bran Buds)
57111000	Bran Chex
57117000	Cap'n Crunch
57117500	Cap'n Crunch's Christmas Crunch
57119000	Cap'n Crunch's Crunch Berries
57120000	Cap'n Crunch's Peanut Butter Crunch
57123000	Cheerios
57124000	Chex cereal, NFS
57124200	Chocolate flavored frosted puffed corn cereal
57124300	Chocolate lucky charms
57124500	Cinnamon Grahams, General Mills

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57125000	Cinnamon Toast Crunch
57125010	Cinnamon toast crunch reduced sugar
57125900	Honey Nut Clusters (formerly called Clusters)
57126000	Cocoa Krispies
57126500	Cocoa Blasts, Quaker
57127000	Cocoa Pebbles
57128000	Cocoa Puffs
57128880	Common Sense Oat Bran, plain
57130000	Cookie-Crisp
57131000	Crunchy Corn Bran, Quaker
57132000	Corn Chex
57134000	Corn flakes, NFS
57134090	Corn flakes, low sodium
57135000	Corn flakes, Kellogg
57137000	Corn Puffs
57138000	Total Corn Flakes
57139000	Count Chocula
57143000	Cracklin' Oat Bran
57144000	Crisp Crunch
57148000	Crispix
57148500	Crispy Brown Rice Cereal
57148600	Harmony cereal, General Mills
57151000	Crispy Rice
57152000	Crispy Wheats'n Raisins
57160000	Curves fruit and nut crunch cereal
57201800	Disney cereals, Kellogg's
57201900	Dora the explorer cereal
57206000	Familia
57206700	Fiber One
57206800	Fiber 7 Flakes, Health Valley
57207000	Bran Flakes, NFS (formerly 40% Bran Flakes, NFS)
57208000	Complete Wheat Bran Flakes, Kellogg's (formerly 40% Bran Flakes)
57209000	Natural Bran Flakes, Post (formerly called 40% Bran Flakes, Post)
57211000	Frankenberry
57212100	French Toast Crunch, General Mills
57213000	Froot Loops
57213005	Froot loops cereal straws
57213850	Frosted Cheerios
57214000	Frosted Mini-Wheats
57214100	Frosted Wheat Bites
57215000	Frosty O's
57216000	Frosted rice, NFS
57218000	Frosted Rice Krispies
57219000	Fruit & Fibre (fiber), NFS
57221000	Fruit & Fibre (fiber) with dates, raisins, and walnuts
57221650	Fruit Harvest cereal, Kellogg's
57221700	Fruit Rings, NFS
57221800	Fruit Whirls
57221810	Fruity cheerios
57223000	Fruity Pebbles
57224000	Golden Grahams
57229000	Granola, lowfat, Kellogg's
57229500	Granola with Raisins, lowfat, Kellogg's
57230000	Grape-Nuts
57231000	Grape-Nut Flakes
57231200	Great Grains, Raisin, Date, and Pecan Whole Grain Cereal, Post

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57231250	Great Grains Double Pecan Whole Grain Cereal, Post
57237100	Honey Bunches of Oats
57237300	Honey Bunches of Oats with Almonds, Post
57238000	Honeycomb, plain
57239000	Honeycomb, strawberry
57239100	Honey Crunch Corn Flakes, Kellogg's
57240100	Honey Nut Chex
57241000	Honey Nut Cheerios
57241200	Honey Nut Shredded Wheat, Post
57243000	Honey Smacks
57243870	Jenny O's
57244000	Just Right
57245000	Just Right Fruit and Nut (formerly Just Right with raisins, dates, and nuts)
57301100	Kaboom
57301500	Kashi, Puffed
57301505	Kashi autumn wheat
57301512	Kashi golean crunch honey almond flax
57302100	King Vitaman
57303100	Kix
57304100	Life (plain and cinnamon)
57305100	Lucky Charms
57305150	Frosted oat cereal with marshmallows
57305170	Malt-O-Meal Coco-Roos
57305180	Malt-O-Meal Corn Bursts
57305200	Malt-O-Meal Crispy Rice
57305210	Malt-O-Meal Frosted Flakes
57305300	Malt-o-meal fruity dyno-bites
57305500	Malt-O-Meal Honey and Nut Toasty O's
57305600	Malt-O-Meal Marshmallow Mateys
57306100	Malt-O-Meal Puffed Rice
57306120	Malt-O-Meal Puffed Wheat
57306500	Malt-O-Meal Golden Puffs (formerly Sugar Puffs)
57306700	Malt-O-Meal Toasted Oat Cereal
57306800	Malt-O-meal Tootie Fruities
57307150	Marshmallow Safari, Quaker
57307500	Millet, puffed
57307600	Mini-swirlz cinnamon bun cereal, Kellogg's
57308150	Mueslix cereal, NFS
57308190	Muesli with raisins, dates, and almonds
57308300	Multi Bran Chex
57308400	Multi Grain Cheerios
57308900	Natural Muesli, Jenny's Cuisine
57309100	Nature Valley Granola, with fruit and nuts
57311700	Nu System Cuisine Toasted Grain Circles
57316200	Nutty Nuggets, Ralston Purina
57316300	Oat Bran Flakes, Health Valley
57316410	Apple Cinnamon Oatmeal Crisp (formerly Oatmeal Crisp with Apples)
57316450	Oatmeal Crisp with Almonds
57316500	Oatmeal Raisin Crisp
57316710	Oh's, Honey Graham
57316750	Oh's, Fruitangy, Quaker
57318000	100% Bran
57319000	100% Natural Cereal, plain, Quaker
57319500	Sun Country 100% Natural Granola, with Almonds
57320500	100 % Natural Cereal, with oats, honey and raisins, Quaker
57321500	100 % Natural Wholegrain Cereal with raisins, lowfat, Quaker

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57321700	Optimum, Nature's Path
57321800	Optimum Slim, Nature's Path
57322500	Oreo O's cereal, Post
57323000	Sweet Crunch, Quaker (formerly called Popeye)
57323050	Sweet Puffs, Quaker
57325000	Product 19
57327450	Quaker Oat Bran Cereal
57327500	Quaker Oatmeal Squares (formerly Quaker Oat Squares)
57328000	Quisp
57329000	Raisin bran, NFS
57330000	Raisin Bran, Kellogg
57331000	Raisin Bran, Post
57332050	Raisin Bran, Total
57332100	Raisin Nut Bran
57335500	Raisin Squares Mini-Wheats, Kellogg's (formerly Raisin Squares)
57335550	Reese's Peanut Butter Puffs cereal
57336000	Rice Chex
57337000	Rice Flakes, NFS
57339000	Rice Krispies
57339100	Rice Krispies with Real Strawberries, Kellogg's
57339500	Rice Krispies Treats Cereal (Kellogg's)
57340000	Rice, puffed
57340700	Scooby Doo Cinnamon Marshmallow Cereal, Kellogg's
57341000	Shredded Wheat'N Bran
57341200	Smart Start, Kellogg's
57344000	Special K
57344005	Special K Chocolatey Delight
57346500	Toasted Oatmeal, Honey Nut (Quaker)
57347000	Corn Pops
57347500	Strawberry Squares Mini-Wheats, Kellogg's (formerly Strawberry Squares)
57348000	Frosted corn flakes, NFS
57349000	Frosted Flakes, Kellogg
57355000	Golden Crisp (Formerly called Super Golden Crisp)
57401100	Toasted oat cereal
57403100	Toasties, Post
57404100	Malt-O-Meal Toasty O's
57404200	Malt-O-Meal Apple and Cinnamon Toasty O's
57406100	Total
57406105	Total Cranberry Crunch
57407100	Trix
57407110	Trix, Reduced Sugar
57408100	Uncle Sam's Hi Fiber Cereal
57409100	Waffle Crisp, Post
57410000	Weetabix Whole Wheat Cereal
57411000	Wheat Chex
57412000	Wheat germ, plain
57413000	Wheat germ, with sugar and honey
57416000	Wheat, puffed, plain
57416010	Wheat, puffed, presweetened with sugar
57417000	Shredded Wheat, 100%
57418000	Wheaties

Fat Emulsions for Bakery Wares

(Assuming fat emulsion content of ~9% in wafer-type products)

[Sucrose Fatty Acid Esters] = 0.09%

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53209010	Cookie, chocolate-covered, sugar wafer, creme- or caramel-filled
53210000	Cookie, chocolate wafer
53222020	Cookie, cone shell, ice cream type, wafer or cake
53245000	Cookie, vanilla waffle creme
53247000	Cookie, vanilla wafer
53247050	Cookie, vanilla wafer, reduced fat
53260150	Cookie, lemon wafer, lowfat

Mayonnaise and Mayonnaise-Type Dressings **[Sucrose Fatty Acid Esters] = 0.5%**

83107000	Mayonnaise, regular
83107100	Mayonnaise, made with yogurt
83107200	Mayonnaise, made with tofu
83110000	Mayonnaise-type salad dressing
83110010	Mayonnaise-type salad dressing, cholesterol-free
83203250	Mayonnaise-type salad dressing, fat-free
83204000	Mayonnaise, low-calorie or diet
83204010	Mayonnaise, low-calorie or diet, low sodium
83204020	Mayonnaise, reduced calorie or diet, cholesterol-free
83204050	Mayonnaise-type salad dressing, low-calorie or diet
83204060	Mayonnaise-type salad dressing, low-calorie or diet, cholesterol-free

Mixed Foods Containing Mayonnaise and Mayonnaise-Type Dressings **(Adjusted for mayonnaise or mayonnaise-type dressing content of ~4 to 90%)** **[Sucrose Fatty Acid Esters] = ~0.02 to 0.45%**

12350100	Spinach dip, sour cream base
14620100	Dip, cream cheese base
27416250	Beef salad
27420020	Ham or pork salad
27446200	Chicken or turkey salad
27446220	Chicken or turkey salad with egg
27450010	Crab salad
27450020	Lobster salad
27450030	Salmon salad
27450060	Tuna salad
27450070	Shrimp salad
27450090	Tuna salad with cheese
27450100	Tuna salad with egg
27450130	Crab salad made with imitation crab
27510440	Bacon cheeseburger, 1/4 lb meat, with mayonnaise or salad dressing and tomatoes, on bun
27515150	Steak patty (breaded, fried) sandwich, with mayonnaise or salad dressing, lettuce, and tomato, on bun
27516010	Gyro sandwich (pita bread, beef, lamb, onion, condiments), with tomato and spread
27520110	Bacon sandwich, with spread
27520120	Bacon and cheese sandwich, with spread
27520150	Bacon, lettuce, and tomato sandwich with spread
27520300	Ham sandwich, with spread
27520340	Ham salad sandwich
27540120	Chicken salad or chicken spread sandwich
27540150	Chicken fillet (breaded, fried) sandwich with lettuce, tomato and spread
27540270	Chicken fillet, broiled, sandwich, with lettuce, tomato, and non-mayonnaise type spread
27540320	Turkey salad or turkey spread sandwich
27550000	Fish sandwich, on bun, with spread

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27550510	Sardine sandwich, with lettuce and spread
27550710	Tuna salad sandwich, with lettuce
27550720	Tuna salad sandwich
27570310	Hors d'oeuvres, with spread
32102000	Egg, deviled
32103000	Egg salad
32203010	Egg salad sandwich
58148110	Macaroni salad
58148120	Macaroni salad with egg
58148130	Macaroni salad with tuna
58148140	Macaroni salad with crab meat
58148150	Macaroni salad with shrimp
58148160	Macaroni salad with tuna and egg
58148170	Macaroni salad with chicken
58148180	Macaroni salad with cheese
63401010	Apple salad with dressing
63401020	Apple and cabbage salad with dressing
63402950	Fruit salad (excluding citrus fruits) with salad dressing or mayonnaise
63403010	Fruit salad (including citrus fruits) with salad dressing or mayonnaise
63412010	Pear salad with dressing
63413010	Pineapple salad with dressing
71601010	Potato salad with egg
71603010	Potato salad
73101110	Carrots, raw, salad
73101210	Carrots, raw, salad with apples
74701000	Tomato sandwich
75140500	Broccoli salad with cauliflower, cheese, bacon bits, and dressing
75141000	Cabbage salad or coleslaw, with dressing
75141100	Cabbage salad or coleslaw with apples and/or raisins, with dressing
75141200	Cabbage salad or coleslaw with pineapple, with dressing
75145000	Seven-layer salad (lettuce salad made with a combination of onion, celery, green pepper, peas, mayonnaise, cheese, eggs, and/or bacon)
75416500	Pea salad
75416600	Pea salad with cheese
81302050	Tartar sauce
81312000	Tartar sauce, low calorie

Salad Dressings

[Sucrose Fatty Acid Esters] = 0.5%

83100100	Salad dressing, NFS
83100200	Salad dressing, NFS, for sandwiches
83101000	Blue or roquefort cheese dressing
83101600	Bacon and tomato dressing
83102000	Caesar dressing
83103000	Coleslaw dressing
83103500	Feta Cheese Dressing
83104000	French dressing
83106000	Italian dressing, made with vinegar and oil
83109000	Russian dressing
83111000	Boiled, cooked-type dressing
83112000	Green Goddess dressing
83112990	Sesame dressing
83113000	Sweet and sour dressing
83114000	Thousand Island dressing
83200100	Salad dressing, low-calorie, NFS

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83201000	Blue or roquefort cheese dressing, low-calorie
83202000	French dressing, low-calorie
83203000	Caesar dressing, low-calorie
83205000	Italian dressing, low calorie
83205450	Italian dressing, reduced calorie
83205500	Italian dressing, reduced calorie, fat-free
83206000	Russian dressing, low-calorie
83207000	Thousand Island dressing, low-calorie
83220000	Salad dressing, low calorie, oil-free

Mixed Foods Containing Salad Dressings (Adjusted for salad dressing content of ~8 to 17%) [Sucrose Fatty Acid Esters] = ~0.04 to 0.08%

27446205	Chicken/turkey salad with nuts and/or fruits
58128120	Cornmeal dressing with chicken or turkey and vegetables
58128210	Dressing with oysters
58128220	Dressing with chicken or turkey and vegetables
58128250	Dressing with meat and vegetables
58134630	Tortellini, cheese-filled, meatless, with vegetables and vinaigrette dressing
58134640	Tortellini, cheese-filled, meatless, with vinaigrette dressing
58148500	Pasta salad (macaroni or noodles, vegetables, dressing)
58148550	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing)
75148000	Cobb salad with dressing
75302080	Bean salad, yellow and/or green string beans

Fish Products

Battered Fried Fish Products [Sucrose Fatty Acid Esters] = 0.3%

26100150	Fish, NS as to type, battered, fried
26100250	Fish stick, patty, or fillet, NS as to type, battered, fried
26107150	Catfish, battered, fried
26109150	Cod, battered, fried
26115150	Flounder, battered, fried
26117150	Haddock, battered, fried
26125150	Ocean perch, battered, fried
26127150	Perch, battered, fried
26129150	Pike, battered, fried
26131150	Pompano, battered, fried
26133150	Porgy, battered, fried
26137150	Salmon, battered, fried
26145150	Smelt, battered, fried
26151150	Trout, battered, fried
26157150	Whiting, battered, fried
26158040	Tilapia, battered, fried
26303150	Clams, battered, fried
26304150	Conch, battered, fried
26311150	Lobster, battered, fried
26315150	Oysters, battered, fried
26317150	Scallops, battered, fried
26319140	Shrimp, floured, breaded, or battered, fried

Grain Products and Pastas

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Cereal Bars

[Sucrose Fatty Acid Esters] = 0.2%

41435000	Fiber One Fulfill Bar
41435120	Zone Perfect Classic Crunch Nutrition Bar
41435300	Balance Original Bar
41435500	Clif Bar
41435700	South Beach Living High Protein Cereal Bar
41435710	South Beach Living Meal Replacement Bar
53540000	Breakfast bar, NFS
53540200	Breakfast bar, cereal crust with fruit filling, lowfat
53540300	Fiber One, Chewy Bar
53540400	Kellogg's Nutri-Grain Cereal Bar
53540402	Kellogg's Nutri-Grain Yogurt Bar
53540404	Kellogg's Nutri-Grain Fruit and Nut Bar
53540500	Breakfast bar, date, with yogurt coating
53540600	Milk 'n Cereal bar
53540800	Kashi GoLean Chewy Bars
53540802	Kashi TLC Chewy Granola Bar
53540804	Kashi Golean Crunchy Bars
53540806	Kashi TLC Crunch Granola Bar
53541200	Meal replacement bar
53542000	Snack bar, oatmeal
53542100	Granola bar, oats, sugar, raisins, coconut
53542200	Granola bar, oats, fruit and nuts, lowfat
53542210	Granola bar, nonfat
53543000	Granola bar, oats, reduced sugar
53543100	Granola bar, peanuts, oats, sugar, wheat germ
53544200	Granola bar, chocolate-coated
53544210	Granola bar, with coconut, chocolate-coated
53544220	Granola bar with nuts, chocolate-coated
53544230	Granola bar, oats, nuts, coated with non-chocolate coating
53544250	Granola bar, coated with non-chocolate coating
53544300	Granola bar, high fiber, coated with non-chocolate yogurt coating
53544400	Granola bar, with rice cereal
53544410	Quaker Granola Bites
53544450	PowerBar (fortified high energy bar)

Gravies and Sauces

Sauces and Cooking Sauces

[Sucrose Fatty Acid Esters] = 0.5%

13412000	Milk gravy, quick gravy
14650160	Alfredo sauce
27112000	Beef with gravy (mixture)
27120120	Sausage gravy
28500000	Gravy, poultry
28500030	Gravy, poultry, low sodium
28500040	Gravy, beef or meat
28500050	Gravy, giblet
28500060	Gravy, beef or meat, low sodium
28500100	Gravy, mushroom
28500150	Gravy, redeye
28501010	Gravy, beef or meat, fat free
28501110	Gravy, poultry, fat free

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28510010	Gravy or sauce, poultry-based from Puerto Rican-style chicken fricasse
28510020	Gravy, meat-based, from Puerto-Rican style stuffed pot roast
28510030	Gravy, meat-based, from Puerto-Rican style beef stew
28520000	Gravy or sauce, Chinese (soy sauce, stock or bouillon, cornstarch)
41420250	Hoisin sauce
41420300	Soy sauce
41420350	Soy sauce, reduced sodium
41420400	Teriyaki sauce
41420410	Teriyaki sauce, reduced sodium
41420450	Worcestershire sauce
41811950	Swiss steak, with gravy, meatless
42204100	Brown nut gravy, meatless
55502000	Flour and water gravy
58146200	Pasta, meat-filled, with gravy, canned
74406010	Barbecue sauce
74406050	Barbecue sauce, low sodium
91361010	Sweet and sour sauce

Mixed Foods Containing Sauces and Cooking Sauces

[Adjusted for sauce or cooking sauce content of ~0.3 to 51%]

[Sucrose Fatty Acid Esters] = ~0.002 to 0.3%

21304200	Beef, shortribs, barbecued, with sauce, NS as to fat eaten
21304210	Beef, shortribs, barbecued, with sauce, lean and fat eaten
21304220	Beef, shortribs, barbecued, with sauce, lean only eaten
22701030	Pork, spareribs, barbecued, with sauce, NS as to fat eaten
22701040	Pork, spareribs, barbecued, with sauce, lean and fat eaten
22701050	Pork, spareribs, barbecued, with sauce, lean only eaten
27112010	Salisbury steak with gravy (mixture)
27115000	Beef with soy-based sauce (mixture)
27115100	Steak teriyaki with sauce (mixture)
27116200	Beef with barbecue sauce (mixture)
27116300	Beef with sweet and sour sauce (mixture)
27118140	Stuffed pot roast, Puerto Rican style, NFS (assume with gravy and stuffing)
27118180	Puerto Rican style beef stew, meat with gravy (potatoes reported separately)
27120020	Ham or pork with gravy (mixture)
27120030	Ham or pork with barbecue sauce (mixture)
27120060	Sweet and sour pork
27120150	Pork or ham with soy-based sauce (mixture)
27130010	Lamb or mutton with gravy (mixture)
27135010	Veal with gravy (mixture)
27136080	Venison/deer with gravy (mixture)
27142000	Chicken with gravy (mixture)
27142200	Turkey with gravy (mixture)
27145000	Chicken or turkey teriyaki (chicken or turkey with soy-based sauce)
27146000	Chicken or turkey with barbecue sauce (mixture)
27146010	Chicken or turkey with barbecue sauce (mixture), skin not eaten
27146100	Sweet and sour chicken or turkey
27146350	Lemon chicken, Chinese style
27150160	Shrimp with lobster sauce (mixture)
27150170	Sweet and sour shrimp
27150190	Lobster sauce (broth-based)
27150410	Shrimp teriyaki (shrimp with soy-based sauce) (mixture)
27160010	Meat with barbecue sauce, NS as to type of meat (mixture)
27163010	Meat with gravy, NS as to type of meat (mixture)
27211200	Beef stew with potatoes, gravy

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27211300	Beef (roast) hash
27212200	Beef and noodles with gravy (mixture)
27212500	Beef and noodles with soy-based sauce (mixture)
27213200	Beef and rice with gravy (mixture)
27213500	Beef and rice with soy-based sauce (mixture)
27220510	Ham or pork and potatoes with gravy (mixture)
27231000	Lamb or mutton and potatoes with gravy (mixture)
27233000	Lamb or mutton and noodles with gravy (mixture)
27241010	Chicken or turkey and potatoes with gravy (mixture)
27242200	Chicken or turkey and noodles with gravy (mixture)
27242500	Chicken or turkey and noodles with soy-based sauce (mixture)
27243600	Chicken or turkey and rice with soy-based sauce (mixture)
27246505	Meat loaf w/ chicken or turkey w/ tomato sauce
27250122	Shrimp and noodles with gravy (mixture)
27250124	Shrimp and noodles with mushroom soup (mixture)
27250126	Shrimp and noodles with cream or white sauce (mixture)
27250128	Shrimp and noodles with soy-based sauce (mixture)
27250132	Shrimp and noodles with tomato sauce (mixture)
27260050	Meatballs, with breading, NS as to type of meat, with gravy
27311410	Beef stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy
27311420	Beef stew with potatoes and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy
27311510	Shepherd's pie with beef
27311600	Beef, pot, & veg (incl car/dk grn), gravy
27311605	Beef, pot, & veg (no car/dk green), GRAVY
27311625	Beef, pot, & veg (incl car/dk grn), tomato-based sauce
27311630	Beef, pot, & veg (no car/dk green), TOMATO-BASED SAUCE
27311635	Beef, pot, & veg (incl car/dk grn), cheese sauce
27311640	Beef, pot, & veg (no car/dk green), CHEESE SAUCE
27311645	Beef, pot, & veg (incl car/dk grn), soy-based sauce
27311650	Beef, pot, & veg (no car/dk green), soy-based sauce
27313110	Beef chow mein or chop suey with noodles
27313150	Beef, noodles, and vegetables (including carrots, broccoli, and/or dark-green leafy), soy-based sauce (mixture)
27313160	Beef, noodles, and vegetables (excluding carrots, broccoli, and dark-green leafy), soy-based sauce (mixture)
27313410	Beef, noodles, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27313420	Beef, noodles, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27315330	Beef, rice & veg (incl car/dk grn), cheese sauce
27315340	Beef, rice & veg (no car/dk grn), cheese sauce
27315410	Beef, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27315420	Beef, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27315510	Beef, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), soy-based sauce (mixture)
27315520	Beef, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), soy-based sauce (mixture)
27317100	Beef, dumplings, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27317110	Beef, dumplings, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)

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27320120	Sausage, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27320130	Sausage, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27320140	Pork, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27320150	Pork, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27320310	Pork chow mein or chop suey with noodles
27320320	Pork, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), soy- based sauce (mixture)
27320330	Pork, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), soy-based sauce (mixture)
27320500	Sweet and sour pork with rice
27330010	Shepherd's pie with lamb
27330030	Lamb or mutton stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy
27330050	Lamb or mutton, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27330080	Lamb or mutton, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy
27330110	Lamb or mutton stew with potatoes and vegetables (excluding carrots, broccoli, and dark- green leafy), gravy
27336200	Venison/deer, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27336250	Venison/deer, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27341000	Chicken or turkey, potatoes, corn, and cheese, with gravy
27341025	Chicken, pot & veg (incl car/dk grn), gravy
27341030	Chicken, pot & veg (no car/dk grn), gravy
27341035	Chicken, pot & veg (incl car/dk grn), cream/soup-based sauce
27341040	Chicken, pot & veg (no car/dk grn), cream/soup-based sauce
27341045	Chicken, pot & veg (incl car/dk grn), cheese sauce
27341050	Chicken, pot & veg (no car/dk grn), cheese sauce
27341055	Chicken, pot & veg (incl car/dk grn), tomato-based sauce
27341060	Chicken, pot & veg (no car/dk grn), tomato-based sauce
27341310	Chicken or turkey stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy
27341320	Chicken or turkey stew with potatoes and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy
27343410	Chicken or turkey, noodles, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27343420	Chicken or turkey, noodles, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27343910	Chicken or turkey chow mein or chop suey with noodles
27345210	Chicken or turkey, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27345220	Chicken or turkey, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27345230	Chicken or turkey, rice, corn, and cheese with gravy
27345310	Chicken or turkey, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), soy-based sauce (mixture)
27345320	Chicken or turkey, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), soy-based sauce (mixture)
27347220	Chicken or turkey, stuffing, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)

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27347230	Chicken or turkey, stuffing, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27347240	Chicken or turkey, dumplings, and vegetables (including carrots, broccoli, and/or dark green leafy), gravy (mixture)
27347250	Chicken or turkey, dumplings, and vegetables (excluding carrots, broccoli, and dark green leafy), gravy (mixture)
27350050	Shrimp chow mein or chop suey with noodles
27360080	Chow mein or chop suey, NS as to type of meat, with noodles
27360100	Brunswick stew
27360120	Chow mein or chop suey, various types of meat, with noodles
27415100	Beef and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture)
27415120	Beef, tofu, and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture)
27415150	Beef chow mein or chop suey, no noodles
27415200	Beef and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)
27415220	Beef, tofu, and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)
27416100	Beef and vegetables, Hawaiian style (mixture)
27416150	Pepper steak
27416400	Sukiyaki (stir fried beef and vegetables in soy sauce)
27416450	Beef and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), gravy (mixture)
27416500	Beef and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), gravy (mixture)
27420100	Pork, tofu, and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-base sauce (mixture)
27420120	Pork and watercress with soy-based sauce (mixture)
27420150	Kung Pao pork
27420160	Moo Shu (Mu Shi) Pork, without Chinese pancake
27420170	Pork and onions with soy-based sauce (mixture)
27420200	Pork hash, Hawaiian style-ground pork, vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce
27420370	Pork, tofu, and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)
27420390	Pork chow mein or chop suey, no noodles
27420500	Pork and vegetables (including carrots, broccoli, and/or dark-green leafy), soy-based sauce (mixture)
27420510	Pork and vegetables (excluding carrots, broccoli, and dark- green leafy), soy-based sauce (mixture)
27430400	Lamb or mutton stew with vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), gravy
27430410	Lamb or mutton stew with vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), gravy
27442110	Chicken or turkey and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), gravy (mixture)
27442120	Chicken or turkey and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), gravy (mixture)
27445110	Chicken or turkey and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture)
27445120	Chicken or turkey and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)
27445125	Chicken & veg (incl car/dk grn, no pot), tomato sauce
27445130	Chicken & veg (no car/dk grn, no pot), tomato sauce
27445150	General Tso (General Gau) chicken

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27445220	Kung pao chicken
27445250	Almond chicken
27446100	Chicken or turkey chow mein or chop suey, no noodles
27446350	Oriental chicken or turkey garden salad (chicken and/or turkey, lettuce, fruit, nuts), no dressing
27450040	Shrimp chow mein or chop suey, no noodles
27450410	Shrimp and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture)
27450420	Shrimp and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)
27450600	Shellfish mixture and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce
27450610	Shellfish mixture and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce
27450740	Fish and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture)
27450750	Fish and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)
27460010	Chow mein or chop suey, NS as to type of meat, no noodles
27510110	Beef barbecue or Sloppy Joe, on bun
27510130	Beef barbecue submarine sandwich, on bun
27513020	Roast beef sandwich, with gravy
27513030	Roast beef sandwich dipped in egg, fried, with gravy and spread
27520500	Pork, barbecue sauce, onions and dill pickles on white roll
27520510	Pork barbecue or Sloppy Joe, on bun
27520530	Pork sandwich, with gravy
27540130	Chicken barbecue sandwich
27540330	Turkey sandwich, with gravy
28340580	Chicken soup with vegetables (broccoli, carrots, celery, potatoes and onions), Oriental style
28340750	Hot and sour soup
28340800	Chicken soup with vegetables and fruit, Oriental Style
28500010	Gravy, meat or poultry, with wine
28500020	Gravy, meat, with fruit
32105200	Egg foo yung (young), NFS
32105230	Shrimp egg foo yung (young)
41205100	Black bean sauce
41306000	Loaf, lentil
54406200	Shrimp chips (tapioca base)
58110110	Egg roll, meatless
58110120	Egg roll, with shrimp
58110130	Egg roll, with beef and/or pork
58110170	Egg roll, with chicken or turkey
58112510	Dumpling, steamed, filled with meat, poultry, or seafood
58121510	Dumpling, meat-filled
58126120	Turnover, meat-filled, with gravy
58126310	Turnover, chicken, with gravy
58128000	Biscuit with gravy
58131120	Ravioli, NS as to filling with cream sauce
58131330	Ravioli, meat-filled, with cream sauce
58131535	Ravioli, cheese-filled, with cream sauce
58131590	Ravioli, cheese and spinach-filled, no sauce
58135110	Chow fun noodles with meat and vegetables
58136110	Lo mein, NFS
58136120	Lo mein, meatless
58136130	Lo mein, with shrimp

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58145130	Macaroni or noodles with cheese and beef
58150110	Rice, fried, meatless
58150310	Rice, fried, NFS
58150510	Rice, fried, with shrimp
58151100	Sushi, NFS
58151120	Sushi, with vegetables, no fish
58151130	Sushi, with vegetables and fish
58151160	Sushi, with egg, no vegetables, no fish, rolled in seaweed
58155210	Stuffed rice with chicken, Dominican style (Arroz relleno Dominicano)
58156110	Fried rice, Puerto Rican style (arroz frito)
58163110	Rice with gravy
58408010	Won ton (wonton) soup
58408500	Noodle soup with vegetables, Oriental style
58409000	Noodle soup, with fish ball, shrimp, and dark green leafy vegetable
59003000	Meat substitute, cereal- and vegetable protein-based, fried
71106020	Potato from Puerto Rican style stuffed pot roast, with gravy
71106050	Potato from Puerto Rican beef stew, with gravy
71106070	Potato from Puerto Rican chicken fricassee, with sauce
72306000	Watercress broth with shrimp
75232050	Seaweed, prepared with soy sauce
75439010	Vegetable stew without meat
75439500	Chop suey, meatless
75440100	Vegetable combination (including carrots, broccoli, and/or dark-green leafy), cooked, with soy-based sauce
75440110	Vegetable combination (excluding carrots, broccoli, and dark-green leafy), cooked, with soy-based sauce
75647000	Seaweed soup

Meat Products

Battered Fried Meat Products

[Sucrose Fatty Acid Esters] = 0.3%

21104110	Beef steak, battered, fried, NS as to fat eaten
21104120	Beef steak, battered, fried, lean and fat eaten
21104130	Beef steak, battered, fried, lean only eaten
22101400	Pork chop, battered, fried, NS as to fat eaten
22101410	Pork chop, battered, fried, lean and fat eaten
22101420	Pork chop, battered, fried, lean only eaten
22201050	Pork steak or cutlet, battered, fried, NS as to fat eaten
22201060	Pork steak or cutlet, battered, fried, lean and fat eaten
22201070	Pork steak or cutlet, battered, fried, lean only eaten
22210450	Pork, tenderloin, battered, fried
24301210	Duck, battered, fried

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Details regarding the food-uses and food codes for fat-soluble Colors, Flavors, and Nutraceutical Substances will be discussed in Appendices D and E.

Poultry Products

Battered Fried Poultry Products [Sucrose Fatty Acid Esters] = 0.3%

24107000	Chicken, boneless, NS as to part, battered, fried, light or dark meat, prepared with skin, NS as to skin/coating eaten
24107010	Chicken, boneless, NS as to part, battered, fried, light or dark meat, prepared with skin, skin/coating eaten
24127100	Chicken, breast, with or without bone, battered, fried, prepared with skin, NS as to skin/coating eaten
24127110	Chicken, breast, with or without bone, battered, fried, prepared with skin, skin/coating eaten
24127140	Chicken, breast, with or without bone, battered, fried, prepared skinless, NS as to coating eaten
24127150	Chicken, breast, with or without bone, battered, fried, prepared skinless, coating eaten
24127160	Chicken breast, with or without bone, battered, fried, prepared skinless, coating not eaten
24137200	Chicken, leg (drumstick and thigh), with or without bone, battered, fried, prepared with skin, NS as to skin/coating eaten
24137210	Chicken, leg (drumstick and thigh), with or without bone, battered, fried, prepared with skin, skin/coating eaten
24147200	Chicken, drumstick, with or without bone, battered, fried, prepared with skin, NS as to skin/coating eaten
24147210	Chicken, drumstick, with or without bone, battered, fried, prepared with skin, skin/coating eaten
24157200	Chicken, thigh, with or without bone, battered, fried, prepared with skin, NS as to skin/coating eaten
24157210	Chicken, thigh, with or without bone, battered, fried, prepared with skin, skin/coating eaten
24157250	Chicken, thigh, with or without bone, battered, fried, prepared skinless, coating eaten
24167100	Chicken, wing, with or without bone, battered, fried, prepared with skin, NS as to skin/coating eaten
24167110	Chicken, wing, with or without bone, battered, fried, prepared with skin, skin/coating eaten
24201350	Turkey, light or dark meat, battered, fried, NS as to skin eaten
24201360	Turkey, light or dark meat, battered, fried, skin not eaten
24201370	Turkey, light or dark meat, battered, fried, skin eaten
27146350	Lemon chicken, Chinese style
27445150	General Tso (General Gau) chicken
27540150	Chicken fillet (breaded, fried) sandwich with lettuce, tomato and spread
27540180	Chicken patty sandwich or biscuit
27540190	Chicken patty sandwich, with lettuce and spread
27540230	Chicken patty sandwich with cheese, on wheat bun, with lettuce, tomato and spread
28140710	Chicken, fried, with potatoes, vegetable (frozen meal)
28140810	Chicken, fried, with potatoes, vegetable, dessert (frozen meal)
28140910	Chicken, fried, with potatoes, vegetable, cornbread, dessert (frozen meal)
28140920	Chicken, fried, with potatoes, vegetable, vegetable soup, dessert (frozen meal)
28141010	Chicken, fried, with potatoes, vegetable, dessert (frozen meal, large meat portion)

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Processed Fruit and Fruit Juices**Processed Fruit-Filling Preparations****(Assuming processed fruit-filling preparation content of 20%)****[Sucrose Fatty Acid Esters] = 0.5%**

11430000	Yogurt, fruit variety, NS as to type of milk
11431000	Yogurt, fruit variety, whole milk
11432000	Yogurt, fruit variety, lowfat milk
11432500	Yogurt, fruit variety, lowfat milk, sweetened with low-calorie sweetener
11433000	Yogurt, fruit variety, nonfat milk
11433500	Yogurt, fruit variety, nonfat milk, sweetened with low-calorie sweetener
11444000	Yogurt, fruit and nuts, NS as to type of milk
11445000	Yogurt, fruit and nuts, lowfat milk
53220000	Cookie, fruit-filled bar
53220010	Cookie, fruit-filled bar, fat free
53233020	Cookie, oatmeal, with fruit filling
53450000	Turnover or dumpling, apple
53450300	Turnover or dumpling, berry
53450500	Turnover or dumpling, cherry
53450800	Turnover or dumpling, lemon
53451000	Turnover or dumpling, peach
53451500	Turnover, guava
53451750	Turnover, pumpkin
53452100	Pastry, fruit-filled
53452170	Pastry, cookie type, fried
53453150	Empanada, Mexican turnover, fruit-filled
53500100	Breakfast pastry, NFS
53510100	Danish pastry, with fruit
53521140	Doughnut, jelly

Processed Vegetables and Vegetable Juices**Battered Fried Vegetable Products****[Sucrose Fatty Acid Esters] = 0.3%**

71402040	White potato, french fries, breaded or battered
72202030	Broccoli, batter-dipped and fried
75409020	Cauliflower, batter-dipped, fried
75410550	Jalapeno pepper, stuffed with cheese, breaded or battered, fried
75412010	Eggplant, batter-dipped, fried
75414030	Mushrooms, batter-dipped, fried
75414500	Okra, batter-dipped, fried
75415020	Onion rings, NS as to form, batter-dipped, baked or fried
75415021	Onion rings, from fresh, batter-dipped, baked or fried
75415022	Onion rings, from frozen, batter-dipped, baked or fried
75418000	Squash, summer, yellow or green, breaded or battered, baked
75418010	Squash, summer, yellow or green, breaded or battered, fried
75440400	Vegetables, dipped in chick-pea flour batter, (pakora), fried

Potato Stick Type Products**[Sucrose Fatty Acid Esters] = 0.5%**

71205000	White potato sticks
71505000	White potato puffs

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APPENDIX D

Summary of Identified Food-Uses and Use Levels for Fat-Soluble Colors, Flavors, and Nutraceutical Substances

Table D-1 Summary of the Identified Existing Food Uses of Fat-Soluble Colors, Flavors, and Nutraceutical Substances in the U.S.^a

Food Category	Food Uses	Beta-Carotene	Lycopene	Carmine	Turmeric
		Typical Concentration in Food ^a	Typical Concentration in Food ^a	Typical Concentration in Food ^a	Typical Concentration in Food ^a
Alcoholic Beverages	Alcoholic Beverages	0.0090%	0.0060%		
Baked Goods and Baking Mixes	Bread Products (Excluding White Breads and White Rolls)				0.0177%
	Cookies				0.117%
	Crackers	0.0060%			
	Fruit Cakes/Cones			2.9%	
	Fruit-Filled Pies				0.051%
	Wafers		0.006%		
Beverages and Beverage Bases	Carbonated Beverages	0.0090%	0.006%		
	Meal Replacement Beverages	0.0090%	0.006%		
Cheeses	Cream Cheese		0.006%		0.0159%
	Flavored Processed Cheese		0.006%		
Condiments and Relishes	Chutneys, Ketchup, and Salsas		0.015%		0.0069%
	Pickles/Relishes		0.015%		0.024%
	Prepared Mustard		0.009%		1.680%
	Olives				0.120%
Dairy Product Analogs	Non-Dairy Milk	0.003%			
	Non-Dairy Toppings	0.003%			
Egg Products	Egg Products				0.3600%
Fats and Oils	Butter	0.003%			
	Cooking Oil	0.0030%			
	Vegetable Shortening	0.0030%			
Fish Products	Frozen Fish Meals				0.5700%
	Fish/Crustacean Pastes ^b		0.009%		
	Fish Roe		0.009%		

Table D-1 Summary of the Identified Existing Food Uses of Fat-Soluble Colors, Flavors, and Nutraceutical Substances in the U.S.^a

Food Category	Food Uses	Beta-Carotene	Lycopene	Carmine	Turmeric
		Typical Concentration in Food ^a	Typical Concentration in Food ^a	Typical Concentration in Food ^a	Typical Concentration in Food ^a
	Pre-cooked Crustaceans		0.0075%		
	Processed Frozen Fish Products				0.003%
	Smoked Fish		0.009%		
Fruit and Water Ices	Edible Ices		0.006%		
Grain Products & Pasta	Flavored Rice				0.0279%
Hard Candy	Hard Candy		0.009%	0.7800%	
Jams and Jellies	Jams, Jellies, Marmalades, and Other Similar Fruit Preparations		0.009%		
Milk Products	Flavored Milk Products		0.0045%		
	Sour Cream				0.9900%
	Yogurt				0.0003%
Nuts and Nut Products	Dry Roasted Seeds & Nuts		0.015%		0.9000%
Plant Protein Products	Meat and Fish Analogues		0.015%		
	Salmon Substitutes ^b		0.015%		
Processed Fruits and Fruit Juices	Candied Fruits		0.006%		
	Preserves of Red Fruits		0.006%		
	Processed Fruits	0.009%			
Processed Vegetables	Candied Vegetables		0.006%		
	Specialty Vegetables ^b				0.0162%
Seasonings and Flavors	Products other than MSG ^b				30.0%
	Meat Tenderizers ^b				1.00%
	Table Salt ^b				3.90%
Snack Foods	Savory Snacks		0.006%		
Soft Candy	Chocolate		0.009%		

Table D-1 Summary of the Identified Existing Food Uses of Fat-Soluble Colors, Flavors, and Nutraceutical Substances in the U.S.^a

Food Category	Food Uses	Beta-Carotene	Lycopene	Carmine	Turmeric
		Typical Concentration in Food ^a	Typical Concentration in Food ^a	Typical Concentration in Food ^a	Typical Concentration in Food ^a
	Soft Candy		0.009%	0.300%	
Soup and Soup Mixes	Bouillon	0.0039%	0.009%		0.0135%
	Creamed Soups	0.0039%	0.009%		0.1560%

Individual existing food uses and use levels of beta-carotene, lycopene, carmine, turmeric, and turmeric oleoresin were obtained from the "1977 Survey of Industry on the Use of Food Additives" (NRC, 1979), and based on a table of proposed food uses of lycopene and sucrose fatty acid esters provided by Sisterna B.V.

^a The highest level of beta-carotene, lycopene, carmine, and turmeric/turmeric oleoresin in each food-use was used to estimate the expected sucrose fatty acid esters' levels resulting from the combined exposure of fat-soluble colors, flavors, and nutraceutical substances.

^b No food codes for these food uses were available in the NHANES 2003-2004, 2005-2006, 2007-2008 databases.

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APPENDIX E

**Representative NHANES 2003-2008 Food Codes for Identified Food Uses of
Fat-Soluble Colors, Flavors, and Nutraceutical Substances in the United States**

**Representative NHANES 2003-2008 Food Codes for Identified Food Uses of Fat-Soluble Colors,
Flavors, and Nutraceutical Substances in the United States**

Alcoholic Beverages

Alcoholic Beverages

**(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.009%)
[Sucrose Fatty Acid Esters] = 0.009%**

93101000	Beer
93102000	Beer, lite
93201000	Cordial or liqueur
93302000	Rum, hot butter
93401010	Wine, table, red
93401020	Wine, table, white
93401100	Wine, rice
93401300	Wine, cooking (assume cooked)
93402000	Wine, dessert, sweet
93403000	Wine, light
93404000	Wine cooler
93404500	Sangria
93404600	Sangria, Puerto Rican style
93405000	Wine spritzer
93406000	Glug
93501000	Brandy
93502000	Whiskey
93503000	Gin
93504000	Rum
93504100	Rum cooler
93505000	Vodka

Baked Goods and Baking Mixes

Bread Products (Excluding White Breads and White Rolls)

**(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.0177%)
[Sucrose Fatty Acid Esters] = 0.0177%**

51201010	Bread, whole wheat, 100%
51201020	Bread, whole wheat, 100%, toasted
51201110	Bread, whole wheat, 100%, with raisins
51201120	Bread, whole wheat, 100%, with raisins, toasted
51201150	Bread, pita, whole wheat, 100%
51201160	Bread, pita, whole wheat, 100%, toasted
51204010	Bread, wheat germ
51204020	Bread, wheat germ, toasted
51207010	Bread, sprouted wheat
51207020	Bread, sprouted wheat, toasted
51300110	Bread, whole wheat, other than 100% or NS as to 100%
51300120	Bread, whole wheat, other than 100% or NS as to 100%, toasted
51300180	Bread, puri or poori (Indian puffed bread), whole wheat, other than 100% or NS as to 100%, filled wi
51300210	Bread, whole wheat, NS as to 100%, with raisins
51300220	Bread, whole wheat, NS as to 100%, with raisins, toasted
51301010	Bread, wheat or cracked wheat
51301020	Bread, wheat or cracked wheat, toasted
51301120	Bread, wheat or cracked wheat, with raisins

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Intertek

51301130	Bread, wheat or cracked wheat, with raisins, toasted
51301510	Bread, wheat or cracked wheat, reduced calorie and/or high fiber
51301520	Bread, wheat or cracked wheat, reduced calorie and/or high fiber, toasted
51301600	Bread, pita, whole wheat, other than 100% or NS as to 100%
51301610	Bread, pita, whole wheat, other than 100% or NS as to 100%, toasted
51301620	Bread, pita, wheat or cracked wheat
51301630	Bread, pita, wheat or cracked wheat, toasted
51601210	Bread, multigrain, with raisins

Fruit Cakes/Cones

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~2.9%)
[Sucrose Fatty Acid Esters] = ~2.9%

51188100	Pannetone (Italian-style sweetbread)
53110000	Cake, fruit cake, light or dark, holiday type cake

Cookies

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.117%)
[Sucrose Fatty Acid Esters] ~0.117%

53201000	Cookie, NFS
53202000	Cookie, almond
53203000	Cookie, applesauce
53203500	Cookie, biscotti (Italian sugar cookie)
53204000	Cookie, brownie, NS as to icing
53204010	Cookie, brownie, without icing
53204100	Cookie, brownie, with icing
53204500	Cookie, brownie, with cream cheese filling, without icing
53204600	Cookie, brownie, with peanut butter fudge icing
53204800	Cookie, brownie, diet, NS as to icing
53204830	Cookie, brownie, lowfat, with icing
53204840	Cookie, brownie, lowfat, without icing
53204850	Cookie, brownie, fat free, cholesterol free, with icing
53204860	Cookie, brownie, fat free, without icing
53205250	Cookie, butterscotch, brownie
53205500	Cookie, butterscotch chip
53205600	Cookie, caramel coated, with nuts
53205750	Cookie, carob
53205760	Cookie, carob and honey brownie
53206000	Cookie, chocolate chip
53206010	Cookie, chocolate chip, with raisins
53206030	Cookie, chocolate chip, reduced fat
53206050	Cookie, rich, chocolate chip, with chocolate filling
53206100	Cookie, chocolate chip sandwich
53206500	Cookie, chocolate, made with rice cereal
53206550	Cookie, chocolate, made with oatmeal and coconut (no-bake)
53207000	Cookie, chocolate fudge, with/without nuts
53207050	Cookie, chocolate, with chocolate filling or coating, fat free
53208000	Cookie, chocolate-covered marshmallow
53208200	Cookie, marshmallow pie, chocolate covered
53209000	Cookie, chocolate, chocolate sandwich or chocolate-coated or striped
53209010	Cookie, chocolate-covered, sugar wafer, creme- or caramel-filled
53209020	Cookie, chocolate sandwich, reduced fat
53209050	Cookie, chocolate-covered, chocolate sandwich
53209100	Cookie, chocolate, sandwich, with extra filling
53209500	Cookie, chocolate and vanilla sandwich

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Intertek

53210000	Cookie, chocolate wafer
53210900	Cookie, graham cracker sandwich with chocolate and marshmallow filling
53210910	Cookie, graham cracker with marshmallow
53211000	Cookie bar, with chocolate, nuts, and graham crackers
53215500	Cookie, coconut
53216000	Cookie, coconut and nut
53220000	Cookie, fruit-filled bar
53220010	Cookie, fruit-filled bar, fat free
53220020	Cookie, date bar
53220030	Cookie, fig bar
53220040	Cookie, fig bar, fat free
53222010	Cookie, fortune
53222020	Cookie, cone shell, ice cream type, wafer or cake
53222100	Cookie, cone shell, ice cream type, brown sugar
53223000	Cookie, gingersnaps
53223100	Cookie, granola
53224000	Cookie, ladyfinger
53224250	Cookie, lemon bar
53225000	Cookie, macaroon, coconut-meringue type, no flour
53226000	Cookie, marshmallow, with coconut
53226500	Cookie, marshmallow, with rice cereal (no-bake)
53226550	Cookie, marshmallow, with rice cereal and chocolate chips
53226600	Cookie, marshmallow and peanut butter, with oat cereal (no-bake)
53227000	Cookie, marshmallow pies, non-chocolate coating
53228000	Cookie, meringue
53230000	Cookie, molasses
53231000	Cookie, Lebkuchen
53231400	Cookie, multigrain, high fiber
53233000	Cookie, oatmeal
53233010	Cookie, oatmeal, with raisins
53233020	Cookie, oatmeal, with fruit filling
53233030	Cookie, oatmeal, fat free, with raisins
53233040	Cookie, oatmeal, reduced fat, with raisins
53233050	Cookie, oatmeal sandwich, with creme filling
53233060	Cookie, oatmeal, with chocolate chips
53233080	Cookie, oatmeal sandwich, with peanut butter and jelly filling
53233100	Cookie, oatmeal, with chocolate and peanut butter (no-bake)
53233500	Cookie, oat bran
53234000	Cookie, peanut butter
53234010	Cookie, peanut butter, with oatmeal
53234100	Cookie, peanut butter, with chocolate
53234250	Cookie, peanut butter with rice cereal (no-bake)
53235000	Cookie, peanut
53235500	Cookie, with peanut butter filling, chocolate-coated
53235600	Cookie, Pfeffernusse
53236000	Cookie, pizzelle (Italian style wafer)
53236100	Cookie, pumpkin
53237000	Cookie, raisin
53237010	Cookie, raisin sandwich, cream-filled
53237500	Cookie, rum ball (no-bake)
53238000	Cookie, sandwich-type, not chocolate or vanilla
53239000	Cookie, shortbread
53239010	Cookie, shortbread, reduced fat
53239050	Cookie, shortbread, with chocolate filling
53241500	Cookie, butter or sugar cookie
53241600	Cookie, butter or sugar cookie, with fruit and/or nuts

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Intertek

53242000	Cookie, sugar wafer
53242500	Cookie, toffee bar
53243000	Cookie, vanilla sandwich
53243050	Cookie, vanilla sandwich, reduced fat
53243100	Cookie, rich, all chocolate, with chocolate filling or chocolate chips
53244010	Cookie, butter or sugar, with chocolate icing or filling
53244020	Cookie, butter or sugar, with icing or filling other than chocolate
53245000	Cookie, vanilla waffle creme
53246000	Cookie, tea, Japanese
53247500	Cookie, vanilla with caramel, coconut, and chocolate coating
53248000	Cookie, whole wheat, dried fruit, nut
53251100	Cookie, rugelach
53260030	Cookie, dietetic, chocolate chip
53260150	Cookie, lemon wafer, lowfat
53260200	Cookie, dietetic, oatmeal with raisins
53260300	Cookie, dietetic, sandwich type
53260400	Cookie, dietetic, sugar or plain
53270100	Cookies, Puerto Rican (Mantecaditos polvorones)

Crackers

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.006%)
[Sucrose Fatty Acid Esters] = ~0.006%

54001000	Crackers, NS as to sweet or nonsweet
54101010	Cracker, animal
54102010	Crackers, graham
54102020	Crackers, graham, chocolate covered
54102050	Crackers, oatmeal
54102060	Crackers, Cuban
54102070	Crackers, Cuca
54102080	Crackers, graham, with raisins
54102100	Crackers, graham, lowfat
54102110	Crackers, graham, fat free
54102200	Crackers, graham, sandwich-type, with filling
54201010	Crackers, matzo, low sodium
54202010	Crackers, saltine, low sodium
54202050	Crackers, saltine, fat free, low sodium
54203010	Crackers, toast thins (rye, wheat, white flour), low sodium
54204010	Cracker, 100% whole wheat, low sodium
54205010	Cracker, snack, low sodium
54205030	Cracker, cheese, low sodium
54205100	Cracker, snack, lowfat, low sodium
54210010	Cracker, multigrain, salt free
54222000	Crispbread, rye, low sodium
54301000	Cracker, snack
54301100	Cracker, snack, reduced fat
54301200	Cracker, snack, fat free
54304000	Cracker, cheese
54304100	Cracker, cheese, reduced fat
54304500	Cracker, high fiber, no added fat
54307000	Crackers, matzo
54308000	Crackers, milk
54309000	Crackers, oat
54313000	Crackers, oyster
54318500	Rice cake, cracker-type
54319000	Crackers, rice

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54322000	Crispbread, rye, no added fat
54325000	Crackers, saltine
54325050	Crackers, saltine, whole wheat
54327950	Crackers, cylindrical, peanut-butter filled
54328000	Crackers, sandwich-type, NFS
54328100	Cracker, sandwich-type, peanut butter filled
54328200	Cracker, sandwich-type, cheese-filled
54334000	Crackers, toast thins (rye, pumpernickel, white flour)
54336000	Crackers, water biscuits
54337000	Cracker, 100% whole wheat
54337050	Cracker, 100% whole wheat, reduced fat
54337100	Crackers, whole wheat and bran
54338000	Crackers, wheat
54338100	Crackers, wheat, reduced fat
54339000	Crackers, corn

Fruit-Filled Pies

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.051%)
[Sucrose Fatty Acid Esters] = ~0.051%

53300100	Pie, NFS
53300170	Pie, individual size or tart, NFS
53300180	Pie, fried, NFS
53301000	Pie, apple, two crust
53301070	Pie, apple, individual size or tart
53301080	Pie, apple, fried pie
53301500	Pie, apple, one crust
53301750	Pie, apple, diet
53302000	Pie, apricot, two crust
53302070	Pie, apricot, individual size or tart
53302080	Pie, apricot, fried pie
53305700	Pie, lemon (not cream or meringue)
53305720	Pie, lemon (not cream or meringue), individual size or tart
53305750	Pie, lemon, fried pie
53307000	Pie, peach, two crust
53307050	Pie, peach, one crust
53307070	Pie, peach, individual size or tart
53307080	Pie, peach, fried pie
53307500	Pie, pear, two crust
53307570	Pie, pear, individual size or tart
53308000	Pie, pineapple, two crust
53308070	Pie, pineapple, individual size or tart
53340000	Pie, apple-sour cream
53341000	Pie, banana cream
53341070	Pie, banana cream, individual size or tart
53343000	Pie, coconut cream
53343070	Pie, coconut cream, individual size or tart
53345000	Pie, lemon cream
53345070	Pie, lemon cream, individual size or tart
53346500	Pie, pineapple cream
53347500	Pie, sour cream, raisin
53381000	Pie, lemon meringue
53381070	Pie, lemon meringue, individual size or tart
53390100	Pie, tofu with fruit

Wafers

000129

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.006%)
[Sucrose Fatty Acid Esters] = ~0.018%

53242000	Cookie, sugar wafer
53245000	Cookie, vanilla waffle creme
53247000	Cookie, vanilla wafer
53247050	Cookie, vanilla wafer, reduced fat
53260150	Cookie, lemon wafer, lowfat
53391150	Pie shell, chocolate wafer
53391200	Vanilla wafer dessert base

Beverages and Beverage Bases

Carbonated Beverages

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.009%)
[Sucrose Fatty Acid Esters] = 0.009%

92400000	Soft drink, NFS
92400100	Soft drink, NFS, sugar-free
92410110	Carbonated water, sweetened
92410210	Carbonated water, unsweetened
92410250	Carbonated water, sugar-free
92410310	Soft drink, cola-type
92410315	Soft drink, cola type, reduced sugar
92410320	Soft drink, cola-type, sugar-free
92410330	Soft drink, cola-type, with higher caffeine
92410340	Soft drink, cola-type, decaffeinated
92410350	Soft drink, cola-type, decaffeinated, sugar-free
92410360	Soft drink, pepper-type
92410370	Soft drink, pepper-type, sugar-free
92410390	Soft drink, pepper-type, decaffeinated
92410400	Soft drink, pepper-type, decaffeinated, sugar-free
92410410	Cream soda
92410420	Cream soda, sugar-free
92410510	Soft drink, fruit-flavored, caffeine free
92410520	Soft drink, fruit-flavored, sugar free, caffeine free
92410550	Soft drink, fruit flavored, caffeine containing
92410560	Soft drink, fruit flavored, caffeine containing, sugar-free
92410610	Ginger ale
92410620	Ginger ale, sugar-free
92410710	Root beer
92410720	Root beer, sugar-free
92410810	Chocolate-flavored soda
92410820	Chocolate-flavored soda, sugar-free
92411510	Cola with fruit or vanilla flavor
92411520	Cola with chocolate flavor
92411610	Cola with fruit or vanilla flavor, sugar-free
92411620	Cola with chocolate flavor, sugar-free
92416010	Mavi drink
92417010	Soft drink, ale type
92431000	Carbonated juice drink, NS as to type of juice
92432000	Carbonated citrus juice drink
92433000	Carbonated noncitrus juice drink

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Meal Replacement Beverages

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.009%)

[Sucrose Fatty Acid Esters] = ~0.009%

11611000	Instant breakfast, fluid, canned
11612000	Instant breakfast, powder, milk added
11613000	Instant breakfast, powder, sweetened with low calorie sweetener, milk
11622010	Diet beverage, powder, reconstituted with skim milk
11641000	Meal supplement or replacement, milk-based, high protein, liquid
11641020	Meal replacement or supplement, milk based, ready-to-drink
41430200	Meal replacement or supplement, soy- and milk-base, powder, reconstituted with water
41430310	Protein diet powder with soy and casein
41440010	Meal replacement or supplement, liquid, soy-base, high protein
41440020	Ensure with fiber, liquid
41440050	Ensure Plus liquid nutrition
41440100	Meal replacement or supplement, liquid, soy-based

Powdered Meal Replacement Beverages

(Adjusted for not being reconstituted, 16 g of powder to 240 mL of water)

[Sucrose Fatty Acid Esters] = ~0.135%

11830900	Protein supplement, milk-based, powdered, not reconstituted
11830940	Meal replacement, high protein, milk based, fruit juice mixable formula
11830970	Meal replacement, protein type, milk-based, powdered, not reconstitute
11830990	Nutrient supplement, milk-based, powdered, not reconstituted
11831500	Nutrient supplement, milk-based, high protein, powdered, not reconstit
11832000	Meal replacement, protein type, milk- and soy-based, powdered, not rec
41430000	Protein powder, NFS
41430010	Protein supplement, powdered

Cheeses

Cream Cheese

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.0159%)

[Sucrose Fatty Acid Esters] = 0.0159%

14301010	Cheese, cream
14303010	Cheese, cream, light or lite (formerly called Cream Cheese Lowfat)

Flavored Processed Cheese

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.006%)

[Sucrose Fatty Acid Esters] = 0.006%

14410100	Cheese, processed, American and Swiss blends
14410200	Cheese, processed, American or Cheddar type
14410210	Cheese, processed, American or Cheddar type, low sodium
14410300	Cheese, processed, American or Cheddar type, lowfat
14410330	Cheese, processed cheese product, American or Cheddar type, reduced fat
14410350	Cheese, processed, American or Cheddar type, nonfat or fat free
14410380	Cheese, processed cream cheese product, nonfat or fat free
14410400	Cheese, processed, Swiss
14410420	Cheese, processed, Swiss, lowfat
14410500	Cheese, processed cheese food
14410600	Cheese, processed, with vegetables
14410620	Cheese, processed, with wine

Condiments and Relishes

000131

Chutneys, Ketchup, and Salsas

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.015%)

[Sucrose Fatty Acid Esters] = 0.015%

63409020	Chutney
74401010	Tomato catsup
74401110	Tomato catsup, low sodium
74402010	Tomato chili sauce (catsup-type)
74402100	Salsa, NFS
74402110	Salsa, red, uncooked
74402150	Salsa, red, cooked, not homemade
74402200	Salsa, red, cooked, homemade
74402250	Enchilada sauce, red
74402260	Enchilada sauce, green
74402310	Green tomato-chile sauce, raw (Salsa de tomate verde cruda)
74402350	Green tomato-chile sauce, cooked (Salsa verde, NFS)
75511010	Hot pepper sauce
75512510	Recaito (Puerto Rican little coriander)

Pickles/Relishes

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.024%)

[Sucrose Fatty Acid Esters] = 0.024%

75501010	Corn relish
75503010	Cucumber pickles, dill
75503020	Cucumber pickles, relish
75503030	Cucumber pickles, sour
75503040	Cucumber pickles, sweet
75503050	Cucumber pickles, fresh
75503100	Mustard pickles
75503110	Cucumber pickles, dill, reduced salt
75503140	Cucumber pickles, sweet, reduced salt
75511100	Pickles, NS as to vegetable
75511200	Pickles, mixed
75515010	Vegetable relish

Prepared Mustard

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 1.68%)

[Sucrose Fatty Acid Esters] = 1.68%

75506010	Mustard
75506100	Mustard sauce

Olives

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.12%)

[Sucrose Fatty Acid Esters] = 0.12%

75510000	Olives, NFS
75510010	Olives, green
75510020	Olives, black
75510030	Olives, green, stuffed

Dairy Product Analogs

Non-Dairy Milk

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.003%)

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[Sucrose Fatty Acid Esters] = ~0.003%

11320000	Milk, soy, ready-to-drink, not baby's
11321000	Milk, soy, ready-to-drink, not baby's, chocolate
11340000	Milk, imitation, fluid, non-soy, sweetened, flavors other than chocolate

Non-Dairy Toppings

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.003%)

[Sucrose Fatty Acid Esters] = ~0.003%

12220000	Whipped topping, nondairy, NS as to canned, frozen, or made from powdered mix
12220100	Whipped topping, nondairy, pressurized can
12220200	Whipped topping, nondairy, frozen
12220250	Whipped topping, nondairy, frozen, lowfat
12220270	Whipped topping, non dairy, frozen, fat free
12220280	Whipped topping, nondairy, frozen, sugar free
12220300	Whipped cream substitute, nondairy, made from powdered mix
12220400	Whipped cream substitute, nondairy, lowfat, low sugar, made from powdered mix

Egg Products

Egg Products

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.36%)

[Sucrose Fatty Acid Esters] = ~0.36%

33000100	Egg substitute, NS as to powdered, frozen, or liquid
33102010	Scrambled egg, made from powdered mixture
33201010	Scrambled egg, made from cholesterol-free frozen mixture
33201110	Scrambled egg, made from cholesterol-free frozen mixture with cheese
33301010	Scrambled egg, made from packaged liquid mixture

Fats and Oils

Butter

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.003%)

[Sucrose Fatty Acid Esters] = ~0.003%

81100500	Butter, NFS
81101020	Butter, whipped, stick, salted
81101100	Butter, stick, unsalted
81101110	Butter, whipped, tub, unsalted
81101120	Butter, whipped, stick, unsalted
81101500	Light butter, stick, salted
81101510	Light butter, stick, unsalted
81101520	Light butter, whipped, tub, salted
81104500	Vegetable oil-butter spread, stick, salted
81104510	Vegetable oil-butter spread, tub, salted
81104550	Vegetable oil-butter spread, reduced calorie, stick, salted
81104560	Vegetable oil-butter spread, reduced calorie, tub, salted
81105500	Butter-vegetable oil blend
81204000	Ghee, clarified butter

Cooking Oils

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.003%)

[Sucrose Fatty Acid Esters] = ~0.003%

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Intertek

82101000	Vegetable oil, NFS
82101300	Almond oil
82101500	Coconut oil
82102000	Corn oil
82102500	Corn and canola oil
82103000	Cottonseed oil
82103500	Flaxseed oil
82104000	Olive oil
82105000	Peanut oil
82105500	Rapeseed oil
82105750	Canola and soybean oil
82105800	Canola, soybean and sunflower oil
82106000	Safflower oil
82107000	Sesame oil
82108000	Soybean oil
82108250	Soybean and sunflower oil
82108500	Sunflower oil
82108700	Walnut oil
82109000	Wheat germ oil

Vegetable Shortening

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.003%)

[Sucrose Fatty Acid Esters] = ~0.003%

81203000	Shortening, NS as to vegetable or animal
81203100	Shortening, vegetable

Fish Products

Fish in Frozen Meals

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.57%)

[Sucrose Fatty Acid Esters] = ~0.57%

28150000	Fish dinner, NFS (frozen meal)
28150050	Fish parmesan (frozen meal)
28150510	Fish in lemon-butter sauce with starch item, vegetable (frozen meal)
28150650	Fish, breaded, or fish sticks, with pasta, vegetable and dessert (frozen meal)

Fish Roe

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.009%)

[Sucrose Fatty Acid Esters] = 0.009%

26207110	Roe, shad, cooked
26209100	Roe, herring
26211100	Roe, sturgeon
26212100	Roe, sea urchin

Pre-Cooked Crustaceans

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.0075%)

[Sucrose Fatty Acid Esters] = ~0.0075%

26305110	Crab, cooked, NS as to cooking method
26305120	Crab, baked or broiled
26305160	Crab, hard shell, steamed
26307140	Crab, soft shell, floured or breaded, fried
26309160	Crayfish, boiled or steamed

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Intertek

26311110	Lobster, cooked, NS as to cooking method
26311120	Lobster, baked or broiled
26311130	Lobster, without shell, steamed or boiled
26311150	Lobster, battered, fried
26311160	Lobster, steamed or boiled
26311180	Lobster, canned

Processed Frozen Fish Products

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.003%)
[Sucrose Fatty Acid Esters] = ~0.003%

26100210	Fish stick, patty, or fillet, NS as to type, cooked, NS as to cooking method
26100220	Fish stick, patty, or fillet, NS as to type, baked or broiled
26100230	Fish stick, patty, or fillet, NS as to type, breaded or battered, baked

Smoked Fish

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.009%)
[Sucrose Fatty Acid Esters] = ~0.009%

26100190	Fish, NS as to type, smoked
26117190	Haddock, smoked
26137190	Salmon, smoked
26147190	Sturgeon, smoked
26153190	Tuna, fresh, smoked

Fruit and Water Ices

Edible Ices

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.006%)
[Sucrose Fatty Acid Esters] = 0.006%

63420100	Fruit juice bar, frozen, orange flavor
63420110	Fruit juice bar, frozen, flavor other than orange
63420200	Fruit juice bar, frozen, sweetened with low calorie sweetener, flavors other than orange
63430100	Sorbet, fruit, noncitrus flavor
63430110	Sorbet, fruit, citrus flavor
63430500	Fruit juice bar with cream, frozen
91611000	Ice pop
91611050	Ice pop filled with ice cream, all flavor varieties
91611100	Ice pop, sweetened with low calorie sweetener

Grain Products and Pastas

Flavored Rice

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.0279%)
[Sucrose Fatty Acid Esters] = ~0.0279%

58163310	Flavored rice mixture
58163330	Flavored rice mixture with cheese
58163360	Flavored rice, brown and wild
58163380	Flavored rice and pasta mixture
58163400	Flavored rice and pasta mixture, reduced sodium

Hard Candy

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.78%)
[Sucrose Fatty Acid Esters] = 0.78%

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91718000	Honey-combed hard candy with peanut butter
91718050	Honey-combed hard candy with peanut butter, chocolate covered
91733000	Peanut brittle
91742010	Sesame Crunch (Sahadi)
91745020	Hard candy
91745040	Butterscotch hard candy
91770000	Dietetic or low calorie candy, NFS
91770020	Dietetic or low calorie hard candy
91770050	Dietetic or low calorie mints

Jams and Jellies

Jams, Jellies, and Marmalades

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.009%)

[Sucrose Fatty Acid Esters] = 0.009%

91401000	Jelly, all flavors
91402000	Jam, preserves, all flavors
91403000	Fruit butter, all flavors
91404000	Marmalade, all flavors
91405000	Jelly, dietetic, all flavors, sweetened with artificial sweetener
91405500	Jelly, reduced sugar, all flavors
91406000	Jams, preserves, marmalades, dietetic, all flavors, sweetened with artificial sweetener
91406500	Jams, preserves, marmalades, sweetened with fruit juice concentrates, all flavors
91406600	Jams, preserves, marmalades, low sugar (all flavors)
91407100	Guava paste
91407120	Sweet potato paste
91407150	Bean paste, sweetened
91408100	Chinese preserved sweet vegetable

Milk Products

Flavored Milk Products

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.045%)

[Sucrose Fatty Acid Esters] = 0.045%

11511000	Milk, chocolate, NFS
11511100	Milk, chocolate, whole milk-based
11511200	Milk, chocolate, reduced fat milk-based (formerly "lowfat")
11511300	Milk, chocolate, skim milk-based
11511400	Milk, chocolate, lowfat milk-based
11512510	Hot chocolate, Puerto Rican style, made with low fat milk
11518000	Milk beverage with nonfat dry milk and low calorie sweetener, water ad
11518050	Milk beverage with nonfat dry milk and low calorie sweetener, water ad
11518100	Milk beverage with nonfat dry milk and low calorie sweetener, high cal
11519000	Milk beverage, made with whole milk, flavors other than chocolate
11519050	Milk, flavors other than chocolate, whole milk-based
11520000	Milk, malted, unfortified, NS as to flavor, made with milk
11521000	Milk, malted, unfortified, chocolate, made with milk
11521010	Milk, malted, unfortified, chocolate, made with skim milk
11522000	Milk, malted, unfortified, natural flavor, made with milk
11525000	Milk, malted, fortified, natural flavor, made with milk
11526000	Milk, malted, fortified, chocolate, made with milk
11527000	Milk, malted, fortified, NS as to flavor, made with milk
11531000	Egg nog, made with whole milk

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Intertek

11531500	Eggnog, made with 2% reduced fat milk (formerly eggnog, made with "2% lowfat" milk)
11541000	Milk shake, NS as to flavor or type
11541100	Milk shake, homemade or fountain-type, NS as to flavor
11541110	Milk shake, homemade or fountain-type, chocolate
11541120	Milk shake, homemade or fountain-type, flavors other than chocolate
11541400	Milk shake with malt
11541500	Milk shake, made with skim milk, chocolate
11541510	Milk shake, made with skim milk, flavors other than chocolate
11551050	Milk fruit drink
11552200	Milk-based fruit drink
11553100	Fruit smoothie drink, NFS
11560000	Chocolate-flavored drink, whey- and milk-based
11560020	Flavored milk drink, whey- and milk-based, flavors other than chocolate

Powdered Flavored Milk Products

(Adjusted for not being reconstituted, 16 g of powder to 240 mL of water)

[Sucrose Fatty Acid Esters] = ~0.675%

11830100	Cocoa (or chocolate) with dry milk and sugar, dry mix, not reconstituted
11830110	Cocoa powder with nonfat dry milk and low calorie sweetener, dry mix,
11830120	Cocoa, whey, and low calorie sweetener, fortified, dry mix, not recons
11830140	Chocolate, instant, dry mix, fortified with vitamins and minerals, not
11830160	Cocoa (or chocolate) flavored beverage powder with sugar, dry mix, not
11830170	Cocoa, whey, and low-calorie sweetener mixture, not reconstituted
11830200	Milk, malted, dry mix, unfortified, not reconstituted, flavors other than chocolate
11830210	Milk, malted, dry mix, fortified, not reconstituted, flavors other than
11830250	Milk, malted, dry mix, unfortified, not reconstituted, chocolate
11830260	Milk, malted, dry mix, fortified, not reconstituted, chocolate
11830400	Milk beverage, powder, dry mix, not reconstituted, flavors other than
11830450	Milk beverage with sugar, dry milk, and egg white powder, dry mix, not
11830500	Milk beverage, powder, with nonfat dry milk and low calorie sweetener,
11830550	Milk beverage, powder, with nonfat dry milk and low calorie sweetener,

Sour Cream

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.99%)

[Sucrose Fatty Acid Esters] = ~0.99%

12310100	Sour cream
12310200	Sour cream, half and half
12310300	Sour cream, reduced fat
12310350	Sour cream, light
12310370	Sour cream, fat free

Yogurt

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.0003%)

[Sucrose Fatty Acid Esters] = ~0.0003%

11410000	Yogurt, NS as to type of milk or flavor
11411010	Yogurt, plain, NS as to type of milk
11411100	Yogurt, plain, whole milk
11411200	Yogurt, plain, lowfat milk
11411300	Yogurt, plain, nonfat milk
11420000	Yogurt, vanilla, lemon, or coffee flavor, NS as to type of milk
11421000	Yogurt, vanilla, lemon, or coffee flavor, whole milk
11422000	Yogurt, vanilla, lemon, maple, or coffee flavor, lowfat milk
11423000	Yogurt, vanilla, lemon, maple, or coffee flavor, nonfat milk

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11424000	Yogurt, vanilla, lemon, maple, or coffee flavor, nonfat milk, sweetened with low calorie sweetener
11425000	Yogurt, chocolate, NS as to type of milk
11426000	Yogurt, chocolate, whole milk
11427000	Yogurt, chocolate, nonfat milk
11430000	Yogurt, fruit variety, NS as to type of milk
11431000	Yogurt, fruit variety, whole milk
11432000	Yogurt, fruit variety, lowfat milk
11432500	Yogurt, fruit variety, lowfat milk, sweetened with low-calorie sweetener
11433000	Yogurt, fruit variety, nonfat milk
11433500	Yogurt, fruit variety, nonfat milk, sweetened with low-calorie sweetener
11444000	Yogurt, fruit and nuts, NS as to type of milk
11445000	Yogurt, fruit and nuts, lowfat milk

Nuts and Nut Products

Dry Roasted Nuts and Seeds

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.9%)
[Sucrose Fatty Acid Esters] = 0.9%

42100050	Nuts, NFS
42101200	Almonds, dry roasted (assume salted)
42101210	Almonds, dry roasted, without salt
42104200	Cashew nuts, dry roasted
42110200	Mixed nuts, dry roasted
42111200	Peanuts, dry roasted, salted
42111210	Peanuts, dry roasted, without salt

Plant Protein Products

Meat and Fish Analogues

(Assuming fat soluble color, flavor, and nutraceutical substance content of ~0.015%)
[Sucrose Fatty Acid Esters] = ~0.015%

41812900	Vegetarian meat loaf or patties (meat loaf made with meat substitute)
59003000	Meat substitute, cereal- and vegetable protein-based, fried

Processed Fruits and Fruit Juices

Candied Fruits

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.006%)
[Sucrose Fatty Acid Esters] = 0.006%

63401060	Apple, candied
71905210	Candied ripe plantain, Puerto Rican style (Platano en almibar)
91708000	Fruit peel, candied

Preserves of Red Fruit

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.006%)
[Sucrose Fatty Acid Esters] = 0.006%

63111010	Cherries, maraschino
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Processed Fruits

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.009%)
[Sucrose Fatty Acid Esters] = 0.009%

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61101200	Grapefruit, canned or frozen, NS as to sweetened or unsweetened; sweetened, NS as to type of sweetener
61101220	Grapefruit, canned or frozen, unsweetened, water pack
61101230	Grapefruit, canned or frozen, in light syrup
61104200	Grapefruit and orange sections, cooked, canned, or frozen, NS as to added sweetener
61104220	Grapefruit and orange sections, cooked, canned, or frozen, unsweetened, water pack
61104230	Grapefruit and orange sections, cooked, canned, or frozen, in light syrup
63101210	Apple, cooked or canned, with syrup
63203125	Blueberries, cooked or canned, in light syrup
63311110	Fruit cocktail, cooked or canned, NS as to sweetened or unsweetened; sweetened, NS as to type of sweetener
63311120	Fruit cocktail, cooked or canned, unsweetened, water pack
63311130	Fruit cocktail, cooked or canned, in heavy syrup
63311140	Fruit cocktail, cooked or canned, in light syrup
63311145	Tropical fruit cocktail, cooked or canned, in light syrup
63311150	Fruit cocktail, cooked or canned, drained solids
63311170	Fruit cocktail, cooked or canned, juice pack

Processed Vegetables

Candied Vegetables

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.006%)

[Sucrose Fatty Acid Esters] = 0.006%

73406000	Sweetpotato, candied
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Snack Foods

Savory Snacks

(Assuming fat soluble color, flavor, and nutraceutical substance content of 0.006%)

[Sucrose Fatty Acid Esters] = 0.006%

54401010	Salty snacks, corn or cornmeal base, nuts or nuggets, toasted
54401020	Salty snacks, corn or cornmeal base, corn chips, corn-cheese chips
54401050	Salty snacks, corn or cornmeal base, corn puffs and twists; corn-cheese puffs and twists
54401080	Salty snacks, corn or cornmeal base, tortilla chips
54401090	Salty snacks, corn or cornmeal base, corn chips, corn-cheese chips, unsalted
54401100	Salty snacks, corn or cornmeal base, tortilla chips, light (baked with less oil)
54401120	Salty snacks, corn or cornmeal base, tortilla chips, fat free, made with Olean
54401150	Salty snacks, corn or cornmeal base, tortilla chips, lowfat, baked without fat
54401170	Salty snacks, corn or cornmeal base, tortilla chips, lowfat, baked without fat, unsalted
54401200	Salty snacks, corn or cornmeal base, with oat bran, tortilla chips
54401210	Salty snacks, corn based puffs and twists, cheese puffs and twists, lowfat
54402080	Salty snacks, corn or cornmeal base, tortilla chips, unsalted
54402200	Salty snack mixture, mostly corn or cornmeal based, with pretzels, without nuts
54402300	Salty snacks, wheat-based, high fiber
54402500	Salty snacks, wheat- and corn-based chips
54402600	Salty snacks, multigrain, chips
54402700	Pita chips
54403000	Popcorn, popped in oil, unbuttered
54403010	Popcorn, air-popped (no butter or no oil added)
54403020	Popcorn, popped in oil, buttered
54403040	Popcorn, air-popped, buttered
54403050	Popcorn, flavored
54403060	Popcorn, popped in oil, lowfat, low sodium

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Intertek

54403070	Popcorn, popped in oil, lowfat
54403090	Popcorn, popped in oil, unsalted
54403110	Popcorn, sugar syrup or caramel-coated
54403120	Popcorn, sugar syrup or caramel-coated, with nuts
54403150	Popcorn, sugar syrup or caramel-coated, fat free
54406010	Onion-flavored rings
54406200	Shrimp chips (tapioca base)
54408000	Pretzels, NFS
54408010	Pretzels, hard
54408020	Pretzels, soft
54408030	Pretzel, hard, unsalted
54408050	Pretzel, oatbran, hard
54408070	Pretzel, hard, multigrain
54408100	Pretzel, baby food
54408200	Pretzel, hard, chocolate-coated
54408250	Pretzel, yogurt-covered
54408300	Pretzels, cheese-filled
54412110	Wheat sticks, 100% whole wheat
54420010	Multigrain mixture, pretzels, cereal and/or crackers, nuts
54420100	Oriental party mix, with peanuts, sesame sticks, chili rice crackers and fried green peas
54420200	Multigrain mixture, bread sticks, sesame nuggets, pretzels, rye chips
54430010	Yogurt chips
54440010	Bagel chip
71201010	White potato, chips
71201050	White potato, chips, reduced fat
71201080	White potato, chips, fat free
71201090	White potato chips, fat free, made with Olean
71201100	White potato, chips, restructured
71201200	White potato, chips, restructured, reduced fat and reduced sodium
71201210	White potato, chips, restructured, fat free, made with Olean
71201250	White potato, chips, restructured, baked
71202000	White potato, chips, unsalted
71202100	White potato, chips, unsalted, reduced fat
71204000	Potato puffs, cheese-filled
71211000	White potato skins, chips

Soft Candy

Chocolate

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.009%)
[Sucrose Fatty Acid Esters] = 0.009%

91700500	M & M's Almond Chocolate Candies
91701010	Almonds, chocolate covered
91703040	Caramel, chocolate covered
91703050	Caramel with nuts and cereal, chocolate covered
91703060	Caramel with nuts, chocolate covered
91703070	Rolo
91703150	Toblerone, milk chocolate with honey and almond nougat
91703200	TWIX Cookie Bars
91703250	TWIX Chocolate Fudge Cookie Bars
91703300	TWIX Peanut Butter Cookie Bars
91703400	Whatchamacallit
91703600	Espresso coffee beans, chocolate-covered
91705010	Chocolate, milk, plain
91705020	Chocolate, milk, with cereal

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Intertek

91705030	Kit Kat
91705040	Chocolate, milk, with nuts, not almond or peanuts
91705050	Chocolate, milk, with fruit and nuts
91705060	Chocolate, milk, with almonds
91705070	Chocolate, milk, with peanuts
91705090	Chocolate with fondant and caramel
91705200	Chocolate, semi-sweet morsel
91705300	Chocolate, sweet or dark
91705400	Chocolate, white
91705410	Chocolate, white, with almonds
91705500	Mexican chocolate (tablet)
91706000	Coconut candy, chocolate covered
91707010	Fondant, chocolate covered
91709000	Gumdrops, chocolate covered
91713010	Fudge, chocolate, chocolate-coated
91713020	Fudge, chocolate, chocolate-coated, with nuts
91713030	Fudge, chocolate
91713040	Fudge, chocolate, with nuts
91715000	Fudge, caramel and nut, chocolate-coated
91715100	SNICKERS Bar
91715200	Baby Ruth
91715300	100 GRAND Bar
91716110	Halvah, chocolate covered
91718100	Butterfinger
91723010	Marshmallow, chocolate covered
91726110	Nougat, with caramel, chocolate covered
91726130	MILKY WAY Bar
91726140	MILKY WAY DARK Bar
91726150	MARS Bar
91726410	Nougat, chocolate covered
91726420	3 MUSKETEER Bar
91727010	Nuts, chocolate covered, not almonds or peanuts
91731000	Peanuts, chocolate covered
91731010	M & M's Peanut Chocolate Candies
91731060	M & M's Peanut Butter Chocolate Candies
91733200	Peanut Bar, chocolate covered
91734000	Peanut butter, chocolate covered
91734100	Reese's Peanut Butter Cup
91734200	Reese's Pieces
91734300	Reese Sticks
91734400	Reese's Fast Break
91739010	Raisins, chocolate covered
91746010	Sugar-coated chocolate discs
91746100	M & M's Plain Chocolate Candies
91746120	Sixlets
91746150	Easter egg, candy coated chocolate
91760100	Toffee, chocolate covered
91760200	Toffee, chocolate-coated, with nuts
91760500	Truffles
91770030	Dietetic or low calorie candy, chocolate covered

Soft Candy

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.3%)
[Sucrose Fatty Acid Esters] = 0.3%

91700010 Candy, NFS

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Intertek

91702010	Butterscotch morsels
91703010	Caramel, chocolate-flavored roll
91703020	Caramel, flavor other than chocolate
91703030	Caramel, with nuts
91703080	Caramel, all flavors, sugar free
91706100	Coconut candy, no chocolate covering
91706400	Coconut candy, Puerto Rican style
91707000	Fondant
91708010	Date candy
91708020	Soft fruit confections
91708030	Fruit leather
91708040	Fun Fruits Creme Supremes
91708070	Tamarind candy
91708100	Fruit snack candy, with added vitamin C
91708150	Yogurt covered fruit snacks candy, w/ added vitamin C
91708160	Yogurt covered fruit snacks candy rolls, w/ high vitamin C
91716010	Halvah, plain
91718200	Chocolate-flavored sprinkles
91721000	Licorice
91723000	Marshmallow
91723020	Marshmallow, candy-coated
91723050	Marshmallow, coconut-coated
91726000	Nougat, plain
91728000	Nut roll, fudge or nougat, caramel and nuts
91734500	Peanut butter morsels
91735000	Pralines
91736000	Pineapple candy, Puerto Rican style
91745010	Gumdrops
91745100	Skittles
91750000	Taffy
91760000	Toffee, plain
91760700	Wax candy, liquid filled
91770010	Dietetic or low calorie gumdrops

Soup and Soup Mixes

Bouillon

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.0135%)
[Sucrose Fatty Acid Esters] = 0.0135%

28310110	Beef, broth, bouillon, or consomme
28310120	Beef, broth, bouillon, or consomme, canned, low sodium
28340110	Chicken, broth, bouillon, or consomme
75657000	Vegetable broth, bouillon

Dry Bouillon Mixes

(Adjusted for not being reconstituted, 8 g of dry soup mix to 240 mL water)
[Sucrose Fatty Acid Esters] = 0.42%

28310130	Beef, broth, bouillon, or consomme, dry, not reconstituted
28310140	Beef, broth, bouillon, or consomme, low sodium, dry, not reconstituted
28340140	Chicken broth, bouillon, or consomme, dry, not reconstituted
41813000	Vegetarian bouillon, dry

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Creamed Soups

(Assuming fat soluble color, flavor, and nutraceutical substance content of up to 0.156%)
[Sucrose Fatty Acid Esters] = 0.156%

28321130	Bacon soup, cream of, prepared with water
28345010	Chicken or turkey soup, cream of, canned, NS as to made with milk or water, reduced sodium
28345020	Chicken or turkey soup, cream of, canned, made with milk, reduced sodium
28345030	Chicken or turkey soup, cream of, canned, made with water, reduced sodium
28345110	Chicken or turkey soup, cream of, NS as to prepared with milk or water
28345120	Chicken or turkey soup, cream of, prepared with milk
28345130	Chicken or turkey soup, cream of, prepared with water
28345160	Chicken and mushroom soup, cream of, prepared with milk
28350110	Crab soup, NS as to tomato-base or cream style
28350210	Clam chowder, NS as to Manhattan or New England style
28355110	Clam chowder, New England, NS as to prepared with water or milk
28355120	Clam chowder, New England, prepared with milk
28355130	Clam chowder, New England, prepared with water
28355140	Clam chowder, New England, canned, reduced sodium, ready-to-serve
28355210	Crab soup, cream of, prepared with milk
28355350	Salmon soup, cream style
28355410	Shrimp soup, cream of, NS as to prepared with milk or water
28355420	Shrimp soup, cream of, prepared with milk
28355430	Shrimp soup, cream of, prepared with water
58403050	Chicken noodle soup, cream of
71801010	Potato soup, cream of, prepared with milk
72302000	Broccoli soup
73501000	Carrot soup, cream of, prepared with milk
73501010	Carrot with rice soup, cream of, prepared with milk
74601010	Tomato soup, cream of, prepared with milk
74604600	Tomato noodle soup, cream of
75600150	Soup, cream of, NFS
75601000	Asparagus soup, cream of, NS as to made with milk or water
75601010	Asparagus soup, cream of, prepared with milk
75601020	Asparagus soup, cream of, prepared with water
75602010	Cauliflower soup, cream of, prepared with milk
75603000	Celery soup, cream of, NS as to made with milk or water
75603010	Celery soup, cream of, prepared with milk
75603020	Celery soup, cream of, prepared with water
75604010	Corn soup, cream of, prepared with milk
75604020	Corn soup, cream of, prepared with water
75604510	Cucumber soup, cream of, prepared with milk
75605010	Leek soup, cream of, prepared with milk
75607000	Mushroom soup, NFS
75607010	Mushroom soup, cream of, prepared with milk
75607020	Mushroom soup, cream of, prepared with water
75607050	Mushroom soup, cream of, prepared with water, low sodium
75607060	Mushroom soup, cream of, NS as to made with milk or water
75607080	Mushroom with chicken soup, cream of, prepared with milk
75607090	Mushroom soup, cream of, canned, NS as to made with milk or water, reduced sodium
75607100	Mushroom soup, cream of, canned, prepared with milk, reduced sodium
75607140	Mushroom soup, cream of, canned, prepared with water, reduced sodium
75608010	Onion soup, cream of, prepared with milk
75611010	Vegetable soup, cream of, prepared with milk
75612010	Zucchini soup, cream of, prepared with milk
75649100	Vegetable soup, cream of, made from dry mix, low sodium, prepared with water

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Condensed Creamed Soups

(Adjusted for not being reconstituted, assuming preparation with equal parts water)

[Sucrose Fatty Acid Esters] = 0.312%

28345040	Chicken or turkey soup, cream of, canned, undiluted, reduced sodium
28345140	Chicken or turkey soup, cream of, canned, undiluted
75603030	Celery soup, cream of, canned, undiluted
75607030	Mushroom soup, canned, undiluted
75607150	Mushroom soup, cream of, canned, undiluted, reduced sodium
75608030	Onion soup, cream of, canned, undiluted

SUBMISSION END

000145